

ABUSE AND HEALTH

AMONG ELDERLY IN EUROPE

Joaquim J.F. Soares, Henrique Barros,
Francisco Torres-Gonzales, Elisabeth Ioannidi-Kapolou,
Giovanni Lamura, Jutta Lindert, Juan de Dios Luna,
Gloria Macassa, Maria Gabriella Melchiorre
and Mindaugas Stankūnas

Kaunas, 2010

The publication of this book was supported by a grant from the European Commission, Executive Agency for Health and Consumers.

Cover picture: Mikalojus Konstantinas Čiurlionis (1875–1911)
“The Creation of the World: part IX”

Text editing: Saulius Medžionis
Mindaugas Stankūnas

Cover design: Mindaugas Stankūnas

ISBN 978–9955–15–194–4

© J.J.F. Soares, 2010
© H. Barros, 2010
© F. Torres-Gonzales, 2010
© E. Ioannidi-Kapolou, 2010
© G. Lamura, 2010
© J. Lindert, 2010
© J. de Dios Luna, 2010
© G. Macassa, 2010
© M.G. Melchiorre, 2010
© M. Stankūnas, 2010
© LSMU Spaudos namai, 2010

CONTENTS

AUTHORS AND PARTICIPATING INSTITUTIONS	6
ACKNOWLEDGEMENTS	8
SUMMARY OF THE KEY FINDINGS	9
Prevalence of abuse and injuries	9
Perpetrators	10
Depressive symptoms	11
Anxiety symptoms	11
Somatic complaints	12
Quality of life	12
SUMMARY OF RESEARCH SUGGESTIONS	13
SUMMARY OF POLICY SUGGESTIONS AT COUNTRY LEVEL	14
SUMMARY OF POLICY SUGGESTIONS AT EU LEVEL	17
SUMMARY OF SWOT	18
Strengths	18
Weaknesses	19
Opportunities	19
Treats to the future	20
1. INTRODUCTION	21
1.1 Background	21
1.2 Definition of elder abuse	22
1.3 Theories of elder abuse	23
1.4 Extent of elder abuse	23
1.5 Risk factors for elder abuse	25
1.6 Effects of elder abuse	26
1.7 Limitations and need of research	26
1.8 Context of the report	27
1.9 Aims of the report	28

2. METHODS	29
2.1 Participants and settings	29
2.2 Measurements	30
2.2.1 Elder abuse	30
2.2.2 Mental well-being	30
2.2.3 Somatic complaints	31
2.2.4 Health care use	31
2.2.5 Social support	31
2.2.6 Quality of life	31
2.2.7 Life-style	32
2.2.8 Demographics/socio-economics	32
2.3 Design and procedure	32
2.4 Statistical analyses	33
3. RESULTS	34
3.1 Prevalence of abuse and injury	34
3.1.1 Country	34
3.1.2 Sex	34
3.1.3 Estimated abuse, injury	35
3.1.4 Demographics/socio-economics, life-style	35
3.1.5 Household, BMI, health, social support	37
3.1.6 Factors associated with abuse, injury	37
3.1.7 Tables	37
3.2 Perpetrators	48
3.2.1 Table	48
3.3 Depressive symptoms	49
3.3.1 Demographics/socio-economics, life-style	49
3.3.2 Household, BMI, health, social support	49
3.3.3 Depressive symptoms by abuse, injury	50
3.3.4 Factors associated with depressive symptoms	50
3.3.5 Tables	50
3.4 Anxiety symptoms	55
3.4.1 Demographics/socio-economics, life-style	55
3.4.2 Household, BMI, health, social support	56
3.4.3 Anxiety symptoms by abuse, injury	56
3.4.4 Factors associated with anxiety symptoms	56
3.4.5 Tables	57
3.5 Somatic complaints	62
3.5.1 Demographics/socio-economics, life-style	62

3.5.2 Household, BMI, health, social support	63
3.5.3 Somatic complaints by abuse, injury	63
3.5.4 Factors associated with somatic complaints	63
3.5.5 Tables	64
3.6 Quality of life	69
3.6.1 Demographics/socio-economics, life-style	69
3.6.2 Household, BMI, health, social support	70
3.6.3 Quality of life by abuse, injury	70
3.6.4 Factors associated with quality of life	70
3.6.5 Tables	71
4. DISCUSSION	77
4.1 Prevalence	77
4.2 Perpetrators	85
4.3 Depressive symptoms	86
4.4 Anxiety symptoms	90
4.5 Somatic complaints	94
4.6 Quality of life	99
5. SUMMARY, LIMITATIONS AND CONCLUSIONS	104
5.1 Summary	104
5.2 Limitations	104
5.3 Conclusions	105
5.3.1 Research	105
5.3.2 General policy making on elder abuse	106
5.3.3 Policy making on elder abuse at country level	107
5.3.4 Policy making on elder abuse at European level	108
5.3.5 Policy making on health, social support and elder abuse	109
6. REFERENCES	110

AUTHORS AND PARTICIPATING INSTITUTIONS

Joaquim J. F. Soares

Professor in Public Health Sciences and in Psychology. Karolinska Institutet, Department of Public Health Sciences, Stockholm and Mid Sweden University, Institution of Health Sciences, Sundsvall, Sweden. Email: joaquim.soares@ki.se; joaquim.soares@miun.se.

Henrique Barros

Professor in Epidemiology. University of Porto Medical School, Department of Hygiene and Epidemiology, Institute of Public Health, University of Porto, Porto, Portugal. Email: hbarros@med.up.pt.

Francisco Torres-Gonzales

Professor in Psychiatry. University of Granada, Departmental Section of Psychiatry and Psychological Medicine, Granada, Spain. Email: ftorres@ugr.es

Elisabeth Ioannidi-Kapolou

PhD in Sociology and Senior Researcher. National School of Public Health Athens, Department of Sociology, Athens, Greece. Email: ioanel@otenet.gr.

Giovanni Lamura

PhD and Senior Gerontologist. Italian National Institute of Health and Science on Aging (INRCA), Ancona, Italy. Email: G.Lamura@inrca.it.

Jutta Lindert

Professor in Public Health Sciences. Protestant University of Applied Sciences Ludwigsburg, Ludwigsburg, Germany. Email: mail@jlindert.de.

Juan de Dios Luna

Professor in Biostatistics. University of Granada, School of Medicine, Department of Biostatistics, Granada, Spain. Email: jd luna@ugr.es.

Gloria Macassa

MD, MPH and PhD in Epidemiology. Karolinska Institutet, Department of Public Health Sciences, Stockholm and University of Gävle, Department of Occupational and Public Health Sciences, Gävle, Sweden. Email: Gloria.Macassa@hig.se.

Maria Gabriella Melchiorre

Researcher. Italian National Institute of Health and Science on Aging (INRCA), Ancona, Italy. Email: g.Melchiorre@inrca.it.

Mindaugas Stankūnas

MPH, PhD in Public Health Sciences and Associate Professor in Public Health Sciences and management. Lithuanian University of Health Sciences, Department of Health Management, Kaunas, Lithuania. Email: mindstan@gmail.com.

ACKNOWLEDGEMENTS

The **ABUEL** coordinator centre and partners would like to express their appreciation for the financial support by the European Union through the EAHC, which made possible the realisation of the project. We extend also our appreciation to the staff of EAHC, and in particular Dr. Guy Dargent, for their help.

Furthermore, the coordinator centre and partners would like to express their appreciation to all participating institutions and to the staff involved in **ABUEL**, and in particular to Dr. Gloria Macassa, Researcher Sabrina Quattrini and Professor Juan de La Luna for their work concerning coordination, and data preparation and analyses. The coordinator centre expresses its appreciation for the work of all partners, with a special thanks to Professor Jutta Lindert and Professor Francisco Torres for their work with the questionnaire and organisation of the **ABUEL** conference in Madrid.

Finally, most of all, the coordinator centre and partners, appreciate the kindness, efforts and answers of the elderly who participated in **ABUEL**. Without them, the adventure of **ABUEL** wouldn't be possible. We are indeed in great debt.

SUMMARY OF THE KEY FINDINGS

Prevalence of abuse, injuries

- (i)** Across countries: 19.4% of the elderly (60–84 years) were exposed to psychological abuse, 2.7% for physical abuse, 0.7% for sexual abuse, 3.8% for financial abuse and 0.7% for injuries.
- (ii)** Across countries: Psychological abuse occurred more often in Sweden (29.7%) and Germany (27.1%). Physical abuse occurred more often in Sweden (4%) and Lithuania (3.8%). Sexual abuse occurred more often in Greece (1.5%) and Portugal (1.3%). Financial abuse occurred more often in Portugal (7.8%) and Spain (4.8%). Injuries occurred more often in Lithuania (1.5%) and Greece (1.1%).
- (iii)** Across countries: More men than women were victims of psychological abuse (20% vs. 18.9%); physical abuse (2.8% vs. 2.6%); and financial abuse (4.1% vs. 3.7%). More women than men were victims of sexual abuse (1% vs. 0.3%) and injuries (0.9% vs. 0.4%).
- (iv)** Across countries: The estimated number of persons in the population (60–84 years) experiencing psychological abuse during the past 12 months was 244,085; physical abuse 33,846; sexual abuse 8,742; financial abuse 48,800; and injuries 8,583. The total number of persons experiencing abuse was 433,256. Stockholm (133,470), Athens (126,111) and Stuttgart (44,869) had the highest estimated number of persons experiencing abuse.

- (v)** The pattern of abuse differed between countries. Contrasted to elderly in Germany, elderly in Greece, Italy, Portugal and Spain were at lower “risk” for psychological abuse; in Italy and Portugal at lower “risk” for physical abuse; in Portugal at higher “risk” for financial abuse; and in Greece at higher “risk” for sexual abuse.
- (vi)** Elderly aged 75–79 and 80–84 years were at lower “risk” for psychological abuse. Elderly aged 80–84 years at higher “risk” for financial abuse.
- (vii)** Men were at higher “risk” for financial abuse than women.
- (viii)** Anxiety symptoms increased the “risk” for all forms of abuse and injuries.
- (ix)** Somatic complaints increased the “risk” for psychological and physical abuse, and injuries.
- (x)** Low social support increased the “risk” for psychological and financial abuse, and injuries.

Perpetrators

- (i)** Across countries: Spouses/partners were the most common perpetrators of psychological (34.8%) and physical abuse (33.7%), and injuries (44.8%).
- (ii)** Across countries: Friends/acquaintances/neighbours were the most common perpetrators of sexual abuse (30.3%).
- (iii)** Across countries: “Others” (e.g. care staff) were the most common perpetrators of financial abuse were (61.7%).

- (iv)** Spouses/partners, friends/acquaintances/neighbours and “others” (e.g. care staff) were at forefront of abuse.

Depressive symptoms

- (i)** Psychological abuse and injuries were related to increase depressive symptoms.
- (ii)** Somatic complaints were related to increase depressive symptoms.
- (iii)** Factors such as being from Greece, Italy, Lithuania and Portugal, and financial strain were related to increase depressive symptoms.
- (iv)** High social support was related to decrease depressive symptoms.

Anxiety symptoms

- (i)** Psychological abuse was related to increase anxiety symptoms.
- (ii)** Somatic complaints were related to increase anxiety symptoms.
- (iii)** Factors such as being from Greece and Lithuania, and financial strain were related to anxiety symptoms.
- (iv)** High social support was related to decrease anxiety symptoms.

Somatic complaints

- (i) Psychological and sexual abuse, and injuries were related to increase somatic complaints.
- (ii) Depressive and anxiety symptoms were related to increase somatic complaints.
- (iii) Low social support was related to increase somatic complaints.
- (iv) Factors such as being from Lithuania, Portugal and Sweden, older age (75–79/80–84 years) and widow/er were related to increase somatic complaints.
- (v) Being a male was related to decrease somatic complaints.

Quality of life

- (i) Psychological abuse was related to decrease Quality of life (QOL).
- (ii) Somatic complaints, and depressive and anxiety symptoms were related to decrease QOL.
- (iii) Factors such as being from Greece, Italy, Lithuania, Portugal, Spain and Sweden, and financial strain were related to decrease QOL.
- (iv) High social support was related to increase QOL.
- (v) Being younger and in the armed forces were related to increase QOL.

SUMMARY OF RESEARCH SUGGESTIONS

- (i)** **ABUEL** provided further insights into elder abuse and related factors (e.g. social support). However, further studies about elder abuse (e.g. risk factors) in various populations (e.g. frail elderly) are warranted considering that several European countries still lack such data, at least confident data.
- (ii)** Research about gender differences in perpetration and victimization, and the mutuality of abuse are also warranted.
- (iii)** In view of the financial and human resources required, it is advantageous to conduct such studies across all the EU countries, using the same type of methodology. Such data are of major importance for the development of effective treatment and prevention strategies.

SUMMARY OF POLICY SUGGESTIONS AT COUNTRY LEVEL

Policy makers are instrumental in the development and implementation of rules, guidelines etc governing the protection of elderly, but also in allocation of resources to these areas. In this context, policy makers may want to consider the following.

*The operational definition of abuse (including injuries) used by **ABUEL** provides a confident description of its components and chronicity. The tool used by **ABUEL** to capture abuse and chronicity provides a reliable assessment method. Thus,

- (i) Using the abovementioned operational definition and tool, will facilitate and improve the assessment/monitoring of abuse and its chronicity, comparability of data and communication among persons involved in abuse issues, and between those persons and society at large. In addition, the development of effective treatment and prevention strategies aimed at dealing with abuse will be facilitated. Finally, available financial and human resources may be used more effectively.

* **ABUEL** showed differences within and between countries concerning the patterns of abuse, but communalities were greater than discrepancies. The occurrence of psychological abuse is particularly evident. Physical, sexual and financial abuse, and injuries occurred less often than psychological abuse, but their frequency is nevertheless worrisome. There were no major differences in exposure to abuse between women and men, but overall men reported slightly more abuse than women. The perpetrators differed depending on the abuse form, but spouses/partners, friends, acquaintances and neighbours and “others” (e.g. care staff) were at the centre of most cases of abuse.

The total estimated number of persons (60–84 years) in the population experiencing abuse during the past 12 months amounted to about 345,000. Thus,

- (i) Legislation aimed at protecting elderly against abuse in the private and public spheres must be improved, actualized or developed, and subsequently implemented.
- (ii) Periodic awareness campaigns concerning elder abuse aimed at the public and specific groups (e.g. media) must be conducted at various levels (e.g. regional).
- (iii) Action plans (national, regional, local) aimed at informing/educating about elder abuse, and assessing/monitoring and treating/preventing abuse must be improved, actualized or developed, and subsequently implemented.
- (iv) Action plans (regional, local) aimed at informing/educating persons who are often or in daily contact with the elderly are urgently needed. The plans must be detailed and involve a range of issues such as what is elder abuse, its risk factors and how to prevent/treat it.*
- (v) The focus concerning elder abuse is usually on women as victims and men as perpetrators. **ABUEL** showed that men by and large are abused at equivalent rates as women, except for sexual abuse. Action plans concerning elder abuse (e.g. prevention) must take into consideration this situation.
- (vi) Action plans (regional, local) aimed at treating perpetrators and preventing future elder abuse are urgently needed.
- (vii) Long-term financial resources must be made available at central, regional and local decision centres to implement the action plans, but also to research, practical projects and support NGO's involved in the area of elder abuse.

* Action plans exist in some countries, but need to be actualized/improved.

- (viii)** Groups dealing specifically with elder abuse and related issues should be set up at central, regional and local decision levels.
- (ix)** A research centre aimed at addressing the various aspects of elder abuse and related issues should be set up in each country, in line with what has been done concerning violence against women.
- (x)** Central, regional and local decision centres should encourage research foundations and educational settings (e.g. universities) to develop/implement research and educational programmes concerning elder abuse and related issues.

*As shown by **ABUEL**, elder abuse does not occur in a vacuum. Various factors seem to be related to abuse. Health and social support compared with other factors (e.g. socio-economics) play a major role. Thus,

- (i)** Any action involving elder abuse must take into consideration the importance of health and social factors in such acts.
- (ii)** Action plans aimed at improving the health of older persons and decreasing their social isolation must be improved, actualized or developed, and subsequently implemented.

SUMMARY OF POLICY SUGGESTIONS AT EU LEVEL

*Policy makers at the EU level and EU institutions can be instrumental concerning the protection of elderly, but also at starting, setting up and supporting various types of action plans dealing with elder abuse and related issues. Thus,

- (i)** Legislation aimed at protecting elderly against abuse must be improved, actualized or developed, and subsequently implemented.
- (ii)** Multi-national periodic awareness campaigns concerning elder abuse aimed at the public and specific groups (e.g. media) must be conducted.
- (iii)** Multi-national action plans concerning various aspects of elder abuse (e.g. prevention) must be improved, actualized or developed, and subsequently implemented.
- (iv)** Long-term financial resources must be made available for research and practical projects about elder abuse, and support NGO's involved in the area.
- (v)** A multi-national research centre aimed at investigating various aspects of elder abuse should be developed and financed.

SUMMARY OF SWOT

Strengths

- (i) **ABUEL** provides confident cross-national/cultural data on various aspects of elder abuse, perpetrators and other factors (e.g. social support), which policy makers, clinicians, researchers and others (e.g. NGO's) at the European and country levels can act upon.
- (ii) **ABUEL** used a workable definition of abuse and instrument to assess abuse as well as other materials (e.g. interviewers manual), which can be applied by policy makers, clinicians, researchers and others (e.g. NGO's) at the European and country levels for a range of activities (e.g. monitoring abuse).
- (iii) **ABUEL** used successfully similar methods/strategies/approaches, which can be applied by policy makers, clinicians, researchers and others (e.g. NGO's) at the European and country levels for a range of activities (e.g. monitoring abuse).
- (iv) **ABUEL** involved researchers from different fields (e.g. psychology, geriatrics epidemiology), which allowed the investigation of elder abuse in a more broad and complex way.
- (v) **ABUEL** provides suggestions concerning practical and research actions as well as policies at the European and country levels, which may be useful for the prevention of elder abuse and treatment of persons who have been abused.

Weaknesses

- (i) **ABUEL** provides confident cross-national/cultural data on various aspects of elder abuse, perpetrators and other factors (e.g. social support), but only from large urban centres. Questions can be raised on the generalizability of the findings into small urban centres and rural areas.
- (ii) **ABUEL** provides confident cross-national/cultural data on various aspects of elder abuse, perpetrators and other factors (e.g. social support), but only from seven European countries. Questions can be raised on the transferability of the findings into other European countries and elsewhere (e.g. USA).

Opportunities

- (i) **ABUEL** provides confident data, materials and suggestions, which may be useful for policy makers, clinicians, researchers and others (NGO's) at the European and country levels in their work for the dignity of elderly and against abuse.
- (ii) **ABUEL** provides confident data, materials and suggestions, which may be useful for research foundations at the country level and agencies at the European level (e.g. EAHC) in their work concerning elder abuse, and refocusing of the areas to be addressed.
- (iii) **ABUEL** provides confident data, which may be useful for awareness campaigns against elderly abuse at the European and country levels.

Treats to the future

- (i) For policy makers and agencies at the European level, **ABUEL** is one more project, and they may move on without taking into consideration the findings and suggestions as well as the urgent need of long-term investments in the area of elder abuse and related factors.
- (ii) For policy makers, clinicians, researchers and others (e.g. NGO's), **ABUEL** is one more project, and they may move on without taking into consideration the findings and suggestions as well as the urgent need of long-term investments in the area of elder abuse and related factors.

1. INTRODUCTION

1.1. Background

The abuse of older persons is a source of concern in Europe and beyond. From being primarily a social welfare issue and a problem of ageing, elder abuse has developed into a public health issue.¹ Elder abuse, under the term “granny battering”, was first described in Britain in 1975.^{2,3} An increasing number of scientific and governmental actions in various countries (e.g. USA) are addressing the problem. Elder abuse is now recognised in both developed and developing countries as a serious and growing problem.

Advances in medical science and in social welfare have ensured that the number of older persons has increased, but also that many of them enjoy longer periods of disability-free old age. Further progress in these areas will strengthen this development. Notwithstanding, old age is associated with a decline in health (e.g. physical), which affects the ability to carry out societal, work and family roles. Not uncommonly, old age involves the loss of influence and reduction of social networks, reduced quality of life, material and emotional hardships, and increased dependency on others for well-being. Remaining inequalities in society have maintained differences in, for instance, access to services, which seem to affect older persons in particular. The living conditions (e.g. housing) of older persons are not always appropriated, not least for those who are frail and disabled, with unnecessary difficulties as a consequence. The increasing focus on “Youth” may marginalise older persons, at least their voices may not be heard to the extent that one would expect considering their experience and knowledge.⁴

Some of these factors are likely to put older persons at risk for abuse. Concern over the abuse of older persons is also heightened by the expected increase in the population in the older age segment. In the more developed regions, the population aged 60 years or over is expected to increase by more than 50% from 264 million in 2009 to 416 million in 2050. In the developing regions, this population segment is expected to increase by more than 300% from 473 million in 2009 to 1.6 billion in 2050. In Europe those aged 60+ years are expect to increase from 161 million in 2010 to 236 million in 2050.⁵ Vulnerabilities and increased population are likely to lead to a growing of abuse.

1.2. Definition of elder abuse

There are various definitions of elder abuse, which depend on how often it occurs, its duration, severity and effects, and cultural context.

For instance, the European Committee of Ministers, Council of Europe defined elder abuse as *“any act, or lack of appropriate action, committed against older people and occurring within the family or institutional settings, jeopardizing his/her life, economic, physical or psychological safety, autonomy and the development of his/her personality”*.⁶

The UK Action on Elder Abuse developed a definition of elder abuse heavily based on the work conducted in Canada, USA and UK, and which was adopted by the International Network for the Prevention of Elder Abuse. The definition states that: *“Elder abuse is a single or repeated act, or lack of appropriate action, occurring within any relationship where there is an expectation of trust which causes harm or distress to an older person.”* Such abuse is divided into five categories: (i) Physical abuse (e.g. infliction of pain); (ii) Psychological or emotional abuse (e.g. infliction of mental anguish); (iii) Financial or material abuse (e.g. illegal or improper exploitation); (iv) Sexual abuse (e.g. non-consensual sexual contact); and (v) Neglect (e.g. refusal to fulfil a care-giving obligation).⁷

ABUEL uses an operational definition of elder abuse derived from the UK study of abuse/neglect of older people⁸ and the CTS2.⁹

1.3. Theories of elder abuse

Several approaches have been put forward to explain elder abuse. For example, the *situational approach* states that elder abuse is due to that an overburden caregiver who cannot cope with caring demands creates an environment for abuse. The *exchange approach* argues that dependencies between an older adult and the abuse perpetrator are related to tactics and responses in family life that have long been established. The *social learning approach* states that elder abuse is a learned behaviour influenced by actions in one's environment. The *political/economic approach* claims that elder abuse is related to challenges faced by elders once they lose their roles and depend on others for well-being. The *caregiver psychopathology approach* argues that a caregiver with mental problems puts the elders at risk for abuse. The *symbolic interaction model* states that elder abuse occurs in the interaction between caregiver and older person, based in the attributions of roles. The *feminist model* argues that elder abuse occurs in function of power inequality in the relations. Finally, the *WHO ecological model* states that abuse, including elder abuse, is a complex phenomenon rooted in the interplay of individual, relationship, community and societal factors. However, at present there isn't unambiguous support for any of the approaches.¹⁰⁻¹⁴

1.4. Extent of elder abuse

Initially, the empirical evidence concerning the extent and characteristics of elder abuse was based on five investigations with community/general population samples conducted in Britain,¹⁵ Canada,¹⁶ Finland,¹⁷ the Netherlands¹⁸ and USA,¹⁹ with a total of 7,500 older persons. Across physical, psychological and financial abuse, and neglect the results showed a rate of abuse of 4–6% among older persons.

Recently, Cooper, Selwood and Livingston²⁰ presented a systematic review of 49 studies regarding the prevalence of elder abuse and neglect in

various countries (e.g. USA). *In detail*, 14 general older population surveys (n=34,366)^{15-19, 21-29} found rates of overall elder abuse ranging between 3.2–27.5%. In five studies with samples of dependent older persons (n=2,247),³⁰⁻³⁴ 25% of the dependent persons reported psychological abuse and 1% physical abuse, and 20% of persons presenting at emergency departments reported neglect and between 6–18% financial abuse. Two studies among elderly visiting primary care services (n=428) who were screened for physical, sexual, psychological abuse or neglect, found rates of 53%³⁵ and 11.9%.³⁶ In 10 studies of elder abuse by family carers (n=1,810),³⁷⁻⁴⁶ the rates of physical abuse ranged between 5–20%, verbal abuse between 30–52% and any abuse between 12–55%. In 12 studies using third party measures of elder abuse (n=102,980),⁴⁷⁻⁵⁸ there was great variation in prevalence rates. The best studies showed that 5% of the elderly referred to care services screened positive for abuse and 3.6% of elderly in a day care sample screened positive for physical abuse. Less than 1% of elderly were reported to protective services.

Finally, in six surveys of professional carers (e.g. nurses), the following was reported. Pillemer and Moore,⁵⁹ in a study with nurses/nursing aids (n=577), found that about 36% of the staff observed physical abuse and 10% committed physical abuse in the past year. Most staff (81%) had observed abuse and 40% had committed psychologically abusive acts in this period. Saveman et al,⁶⁰ in a study of staff (e.g. nurses, n=499) working with older people living in various settings (e.g. sheltered homes), found that 11% knew of abuse in the past year and 2% admitted to abuse. Georgen,⁶¹ in a study of staff working in nursing homes (e.g. nurses, n=80), found that 79% abused or neglected a resident at least once in the past 2 months and 66% witnessed victimizations of residents by colleagues. Jogerst et al⁶² found, in a study about physical, financial, sexual abuse or neglect in Medicare-certified nursing homes (n=355), that over a year, for every 1,000 residents, 20.7 incidents were reported to the staff and 18.4 to state authorities, of which 29% were substantiate. Wang,⁶³ in a study of nurses/care attendants (n=114), reported that 16.1% had witnessed significant abuse and 99% some abuse. Cooper et al,⁶⁴ in a study of family carers (n=86) of elder with Alzheimer's disease, found that 27.9% had been verbally abusive and 3.5% physically.

Most recently, a study in the USA⁶⁵ with a national representative sample of people aged 57–85 years (n=3,005), reported that the past year preva-

lence for verbal abuse was 9%, for physical abuse 0.2% and for financial abuse 3.5%.

A further study in the USA,⁶⁶ with a national representative sample of people aged 60 years or older (n=5,777), the one-year prevalence for emotional abuse was 4.6%, for physical abuse 1.6%, for sexual abuse 0.6%, for financial abuse 5.2% and for potential neglect 5.1%.

A survey of mistreatment towards persons aged 66 years and over (n=2,106) in the UK during the past year,⁶⁷ found that the prevalence of mistreatment ranged between 0.2–1.1% (sexual 0.2%, psychological, 0.4%, physical 0.4%, financial 0.7%, neglect 1.1%).

Data from the first national prevalence survey of abuse against persons aged 65 and older (n=1045) in Israel,⁶⁸ showed that among the Jewish population (n=948) 1.6% had been exposed for physical/sexual abuse, 14.5% for verbal abuse, 2.6% for limitation of freedom, 6.4% for financial abuse and 26% for neglect. Among the non-Jewish population (n=97) the respective figures were 6.2%, 11.5%, 4.1%, 9.3% and 19.6%.

1.5. Risk factors for elder abuse

A number of “risk” factors for elder abuse have been advanced in the literature, which may pertain to victim and perpetrator factors.

In relation to *victim “risk” factors*, studies indicate that women tend to be at higher “risk” for abuse than men and that they suffer from the worst cases of abuse, in particular physical and sexual.^{19,39,67–69} Other “risk” factors are social isolation/low social support,^{16,41,66,70–77,93,103} dependency due to physical/cognitive deficiencies^{52,77–80} and depression/trauma/poor health.^{65,66,81}

In relation to *perpetrator “risk” factors*, women appear to be responsible for most acts of neglect.⁸² Other pre-disposing factors are social isolation/low social support,^{39,41} financial dependency on the victims due to such things as accommodation/daily living,^{39,77,83–87} psychopathology (e.g. substance abuse)^{39,40,42,43,61,77,84,88–91} and being partner/offspring.^{19,22,39,67,68}

1.6. Effects of elder abuse

For older persons, the effects of abuse can be dramatic. Older persons tend to be vulnerable in various areas (e.g. physically), and even relatively minor injuries and loss of small sums of money can have a significant impact on their well-being. Remarkably, few researchers have addressed the morbidity and mortality of elder abuse.

Notwithstanding, data indicate that elder abuse victims often have co-existing depression^{40,49,52,92-97} and distress/anxiety.⁹⁸ Social isolation, loneliness and low social support seem to be related to elder abuse, but more as “risk” factors for abuse than effects. Indeed, social isolation, loneliness and low social support have been connected with increased risk for abuse.^{16,41,66,70-77,93,103} The relationship between abuse and perceived quality of life has not attracted great attention. Two studies suggest however that abused elderly experience their quality of life as lower.^{8,101} Although there are a large number of studies dealing with what may be the physical indicators of elder abuse and mortality after abuse,⁹⁹ few studies have actually presented concrete data on these issues. Some studies have nevertheless suggested that elder abuse is associated poor physical health and shorter survival.^{70,100-102} For example, in a study about mortality rates among 2,812 older persons, it was found that 13 years after the study began 40% of those originally reporting no abuse/neglect were still alive, contrasted to 9% of those who had been abused/neglected.¹⁰²

1.7. Limitations and need of research

The literature about elder abuse has several limitations. For example, the available data on the prevalence rates of elder abuse vary widely. Some of the reasons are divergences between the studies in the definition of abuse, and use of different instruments to measure abuse and ways of collecting data. In fact, relatively few studies use valid and reliable abuse measures, and have clearly defined target populations, probability sampling and standard-

ised data collection methods. Comparing available data on the prevalence of elder abuse may thus be a difficult task. Various studies have addressed the “risk” factors for and effects of elder abuse, but differences in, for instance, the definition and measurement of the same phenomenon hampers comparisons between findings, and the drawing of firm conclusions. Additionally, few studies have addressed the prevalence of elder abuse, and its features, risk factors and effects from multi-cultural and multi-national perspectives precluding inference about the influence of these factors. Overall, available findings on the prevalence of elder abuse, and its features, predictors and consequences must be interpreted with caution.

There is a lack of consistent and reliable data on the prevalence of elder abuse, and its features, “risk” factors and effects, particularly in Europe and within multi-cultural and multi-national contexts. This may be a serious obstacle for the development and tailoring of effective prevention and treatment strategies. Therefore, there is a need of concrete and reliable data on these areas taking into account culture. By using the same definition of elder abuse, instruments to measure abuse and other variables (e.g. mental health), and clearly defined target groups, probability sampling and standardized data collection methods in seven European countries (EU member states), the abovementioned needs may be met. This will allow relying on standardized statistics to facilitate comparisons between countries, thus, contributing to, for instance, the development of effective prevention and treatment programmes.

1.8. Context of the report

In Europe, at country and Union levels, there is an increased concern about abuse against older persons. This can be appreciated through actions (e.g. legislation) conducted by individual governments and at the Union level. However, there is still a shortage of confident data across European countries with regard to the extent, features, determinants and effects of elder abuse. Such data may be useful to, for instance, a further development of policies concerning elder abuse and prevention/treatment approaches.

Consequently, a group of researchers with different competences from seven countries (Germany; Greece; Italy; Lithuania; Portugal; Spain; Sweden), with Sweden as the co-ordinator decided to address the abovementioned issues. A project application (**ABUEL**) was prepared and sent to the EACH for evaluation and support. The project was awarded a grant and started in April 2008. This report is one of the final deliverables.

1.9. Aims of the report

A main aim of this report was to present data on the prevalence of elder abuse (psychological, physical, sexual, financial, injuries) and description of perpetrators in urban centres of seven European countries (Germany; Stuttgart; Greece, Athens; Italy, Ancona; Lithuania, Kaunas; Portugal, Porto; Spain, Granada; Sweden, Stockholm). Data on neglect is not presented. Other important aims were to scrutinize factors associated with the different forms of abuse and injuries, and address depressive, anxiety and somatic symptoms, and quality of life relation to important factors (e.g. abuse).

2. METHODS

2.1. Participants and settings

The participants consisted of randomly selected women and men from the general population living in urban centres of seven European countries (Germany; Stuttgart; Greece, Athens; Italy, Ancona; Lithuania, Kaunas; Portugal, Porto; Spain, Granada; Sweden, Stockholm), except for Greece where a random route sample was used. Inclusion criteria were: (i) Age 60–84 years; (ii) Did not suffer from dementia or other cognitive impairments;* (iii) Had a legal status (national citizens or documented migrants); (iv) Lived in the community or sheltered houses; (v) Could read and write in the native languages; and (vi) Accepted participation.

A sample size was calculated based on municipal censuses (women and men aged 60–84 years) and an expected abuse prevalence of 13% derived from a recent systematic review.²⁰ The total number of participants amounted to 4,451 (2,576 women, 57.9%). Response rates in the sampling base varied between countries from 18.9–87.4%, with a mean of 45.2% across countries. Response rates for women were 47.1% and for men 49.3%, and varied between age groups from 47–49.7%, with a mean of 48% across age groups.** However, there were no major differences (age and gender) between refusals and non-refusals nor did they differ from the general population in each participating country. Thus, the final sample consisted of 4,467 persons (2,559 women, 57.3%).

* Assessed with the Mini-Cog (Borson et al. 2000).

** Greece excluded.

2.2. Measurements

2.2.1. Elder abuse

Elder abuse was measured with 52 items based on the UK study of abuse/neglect of older people⁸ and the Conflict Tactic Scales 2.⁹ The participants were asked if they had been exposed to minor or severe psychological abuse (e.g. insults, 11 items), minor or severe physical abuse (e.g. beatings, 17 items), minor or severe sexual abuse (e.g. intercourse against one's will, 8 items), minor or severe financial abuse (e.g. forcibly taken money, 9 items) and in minor or severe injuries (e.g. bruises, 7 items), and how often the abuse occurred (chronicity). The abuse acts may have occurred once, twice, 3–5, 6–10, 11–20 or >20 times during the past year, did not occur the past year, but before or never occurred. In addition, we assessed neglect (e.g. not helped in routine housework) with 13 items where the participants were asked whether they needed help and received it, needed help but did not receive it or did not need help. Data was also gathered concerning the perpetrator's main characteristics (e.g. age) and where the abuse occurred. Finally, the participants were asked about their reactions to the abuse and whether they were affected by it. For this report, the focus was on exposure to abuse (psychological, physical, sexual and financial abuse, and injuries) and description of perpetrators.

2.2.2. Mental well-being

Depressive and anxiety symptoms were measured with Hospital Anxiety and Depression Scale¹⁰⁴ consisting of 14 items (graded 0–3), 7 each about depression (e.g. “I feel as if I am slowed down”) and anxiety (e.g. “I get sudden feelings of panic”). A score of 0–7 corresponds to no cases, 8–10 to possibly cases and 11–21 to probable cases. High scores correspond to high depression and anxiety levels. For this report, the focus was on the total scores.

2.2.3. Somatic complaints

Somatic complaints were measured with the short version of the Giessen Complaint List¹⁰⁵ consisting of 24 items (graded 0–4) about various somatic symptoms (e.g. physical weakness). The total score amounts to 96 and the items can be divided into 4 sub-scales (exhaustion, gastrointestinal, cardiovascular, musculoskeletal). High scores correspond to high levels of somatic complaints. For this report, the focus was on the total scores.

2.2.4. Health care use

Health care use was measured in terms of the number of contacts with different types of health care staff (e.g. physician) and health care services (e.g. primary care). The items were derived from the Stockholm County Council health survey.¹⁰⁶

2.2.5. Social support

Social support was measured with the Multidimensional Scale of Perceived Social Support^{107,108} consisting of 12 items (graded 1–7). The total score amounts to 84 and questions can be divided into 3 sub-scales, i.e. support from family, significant others and friends. High scores correspond to high social support (total/sub-scales). For this report, the focus was on the total scores.

2.2.6. Quality of life

Quality of life was measured with the WHO Quality of Life-Old¹⁰⁹ consisting of 24 items (graded 1–5). The total score amounts to 100 and items may be divided into 6 subscales, i.e. sensory abilities, autonomy, past, present and future activities, social participation, death and dying and intimacy. High scores correspond to high QOL (total/sub-scales). For this report, the focus was on the total scores.

2.2.7. Life-style

Life-style variables were measured in terms of alcohol and cigarette use, and Body Mass Index (BMI). Alcohol was assessed with a modified version of Alcohol Use Disorders Identification Test¹¹⁰ consisting of 5 items (e.g. do you drink alcohol). A similar strategy was used for the assessment of cigarette use. For this report, the focus was on use of alcohol/cigarettes in a “yes/no” format. Finally, a BMI was computed for each elderly with the formula kg/m^2 .

2.2.8. Demographics/socio-economics

Demographic and socio-economic variables such as age, marital status and profession were measured. “Financial strain” (preoccupation with how to make ends meet) was measured with one question in a “no/sometimes/often/always” format. A participant was defined as having “financial strain” if she/he chooses any response other than “no”. Four questions (e.g. place of birth) addressed the issue of whether the participants were indigenous inhabitants or migrants. The demographic and socio-economic variables were customised for each country, but similar in content.

2.3. Design and procedure

The study was cross-sectional and data were collected in urban centres of seven countries (Germany, Stuttgart; Greece, Athens; Italy, Ancona; Lithuania, Kaunas; Portugal, Porto; Spain, Granada; Sweden, Stockholm) during 6 consecutive months either by face-to-face interview or a combination of interview and self-response. The study started with the development of a research protocol, including sampling, interview and information strategies. This was followed by the development of tools that were compiled into a questionnaire. All materials were translated into the relevant languages and back-translated, and culturally adapted. The feasibility of the questionnaire was tested in each participating country ($n=10$ persons in each, 5 females). Prior to the data collection, interviewers in each country ($n=5-20$) were employed and carefully instructed about such issues as the administration of the

questionnaire and ethical behaviour. Before and in conjunction with the data collection the participants were carefully informed about the study and what was expected of them in writing and verbally, and informed consent was requested. After the data collection, national and international data bases were created. Great emphasis was put on confidentiality, anonymity and the participant's rights. Ethical permission was sought and received in each participating state, except for Greece where permission was not necessary.

2.4. Statistical analyses

Descriptive analyses were carried out for all data, using frequency distribution and summary measures when needed. The bivariate analyses of data, depending on the variable, were performed by means of Chi-square tests, Kruskal-Wallis test and Bonferroni corrections. Shapiro-Wilks tests were performed to assess normality when dependent variables were numeric. In addition, Spearman correlations were performed. Comparisons between different types of perpetrators were performed using Q-Cochran test. The significance level for all analyses was set at $p < 0.05$.

Moreover, multivariate quantile linear regression analyses based on median values was computed to examine the interrelations between dependent numerical variables and numerical/categorical covariates among all participants. The dependent variables were depression and anxiety, somatic complaints, social support and quality of life. The independent factors consisted of country, age, gender, marital status, migrant status, living situation and housing, household size, education level, profession, financial support, financial strain, still on work, use of alcohol, cigarettes and health care, and abuse (e.g. psychological). However, the dependent variables could also be used as independent covariates. For example, somatic complaints were used as an independent variable in the regression of depression and anxiety, and inversely. In addition, logistic regression analyses were performed on abuse and injuries as dependent variables. The independent variables were the same as mentioned above, and we used the same strategy for dependent and independent variables. The associations between the various variables (depending on the regression type) were expressed as un-standardized Betas and their standard errors or Odds ratios (OR) and CI95%. The statistical packages SPSS 15.1 and STATA 11.1 were used to carry out all analyses.

3. RESULTS

3.1. Prevalence of abuse and injury

3.1.1. Country

As shown in Table 1.1, psychological abuse was more common in Sweden, Germany, Lithuania and Portugal followed by Greece, Spain and Italy. Physical abuse was more common in Sweden, Lithuania, Greece and Germany followed by Portugal, Spain and Italy. Sexual abuse was more common in Greece and Portugal followed by Germany, Italy, Sweden, Lithuania and Spain. Financial abuse was more common in Portugal, Spain and Greece followed by Germany, Lithuania, Italy and Sweden. Finally, injuries were more common in Lithuania and Greece followed by Portugal, Sweden, Spain and Germany. Italy reported no injuries.

3.1.2. Sex

As shown in Table 1.1, in Germany, men reported higher figures in psychological abuse and injuries than women, and the opposite in the other forms of abuse. In Greece, women reported higher figures in all types of abuse and injuries than men. In Italy, men reported higher figures in psychological abuse than women, and the opposite in physical, financial and sexual abuse. Neither women nor men were exposed to injuries. In Lithuania, men reported higher figures in financial abuse and injuries than women, and the opposite in the other forms of abuse. In Portugal, men reported higher figures in physical and financial abuse than women, and the opposite in the other forms of abuse

and injuries. In Spain, men reported higher figures in sexual abuse and injuries than women, and the opposite in psychological and financial abuse. Men and women reported the same figures in physical abuse. In Sweden, men reported higher figures in psychological, physical and financial abuse and injuries than women, and the opposite for sexual abuse.

3.1.3. Estimated abuse, injury

As shown in Table 1.1, across countries, based on the figures of each type of abuse (including injuries) and gender, the estimated number of persons in the population (60–84 years) experiencing psychological abuse during the past 12 months was 244,085 persons (134,013 women, 55%); physical abuse 33,846 persons (18,436 women, 54.4%); sexual abuse 8,742 persons (7,091 women, 81.1%); financial abuse 48,800 persons (26,235 women, 53.8%); and injuries 8,583 persons (6,382 women, 74.4%). The total number of persons experiencing abuse the past 12 months amounted to 343,256 (women 192,157, 56%).

3.1.4. Demographics/socio-economics, life-style

As shown in Table 1.2, psychological abuse was more common among elderly in Sweden, Germany, Lithuania and Portugal than among elderly in Italy, Greece and Spain. Physical abuse was more common among elderly in Sweden, Lithuania, Greece and Germany than among elderly in Italy, Spain and Portugal. Sexual abuse was more common among elderly in Greece and Italy than among elderly in Germany, Lithuania, Portugal, Spain and Sweden. Financial abuse was more common among elderly in Portugal, Spain, Greece and Germany than among elderly in Sweden, Italy and Lithuania. There were no differences concerning injuries.

Elderly aged 60–64, 65–69 and 70–79 years reported more psychological abuse than those aged 75–79 and 80–84 years. Additionally, elderly aged 60–64 and 80–84 years reported more physical abuse than those in the other age groups, whereas those aged 70–74, 75–79 and 80–84 years reported more financial abuse than the younger age groups. There were no differences concerning sexual abuse and injuries.

Women reported more sexual abuse than men. There were no differences concerning the other abuse forms and injuries.

Widows/er reported less psychological abuse than the other marital statuses (e.g. alone), whereas divorced/separated and widows/er reported more financial abuse, and divorced/separated more injuries. There were no differences concerning physical and sexual abuse.

Elderly living alone and spouses/partners reported more psychological abuse than counterparts, whereas those living alone and with other persons (e.g. daughter) reported more financial abuse. There were no differences concerning physical and sexual abuse, and injuries.

Elderly living in other housing (e.g. housing for elderly) reported less psychological abuse, whereas those renting their housing reported more financial abuse. There were no differences in physical and sexual abuse, and injuries.

Higher educated elderly reported more psychological abuse than those with no/low education levels. There were no differences concerning the other types of abuse and injuries.

Elderly with some kind of profession reported more psychological abuse than those who were housewives/husbands and in the armed forces. There were no differences concerning the other types of abuse and injuries.

Elderly financially supported by work, work pensions and social/sick-leave/other pension benefits reported more psychological abuse than those supported by spouses/partners income and other financial means. Elderly supported by spouses/partners and other financial means reported more sexual and financial abuse compared to counterparts. There were no differences concerning physical abuse and injuries.

Elderly who still work (paid work) reported more psychological abuse than those who did not work. There were no differences concerning the other types of abuse and injuries.

Elderly who did not experience financial strain reported less psychological abuse than counterparts. There no differences concerning the other types of abuse and injuries.

Elderly who used alcohol reported more psychological and financial than those who did not use alcohol. There were no differences concerning the other types of abuse and injuries. Finally, there were no differences concerning migrant status and use of tobacco.

3.1.5. Household, BMI, health, social support

As shown in Table 1.3 (a,b), elderly exposed to psychological, sexual and financial abuse, and injuries more often used health care than non-exposed.

Elderly exposed to all forms of abuse, and injuries complained more of somatic and anxiety symptoms than non-exposed, whereas those exposed to psychological and physical abuse, and injuries complained more of depressive symptoms.

Elderly exposed to all forms of abuse (except sexual) and injuries reported lower social support than non-exposed.

Elderly exposed to financial abuse lived less often in large households than non-exposed. There were no differences in BMI.

3.1.6. Factors associated with abuse, injury

As shown in Table 1.4, living in rented housing, using alcohol and health care, scoring high in somatic and anxiety symptoms and low in social support were associated with increased “risk” for psychological abuse, and being from Greece, Italy, Portugal and Spain, aged 75–79 and 80–84 years and not experiencing financial strain with decreased “risk”.

Being married/cohabitant and scoring high in anxiety and somatic symptoms were associated with increased “risk” for physical abuse, and being from Italy and Portugal with decreased “risk”.

Being from Greece, supported financially by spouses/partners income, still working, using health care and scoring high in anxiety symptoms were associated with increased “risk” for sexual abuse.

Being from Portugal, aged 80–84 years, male and scoring high in anxiety symptoms and low in social support were associated with increased “risk” for financial abuse.

High scores in somatic and anxiety symptoms and low in social support were associated with increased “risk” for injuries, and using tobacco with decreased “risk”.

3.1.7. Tables

Table 1.1. Prevalence of abuse and injury during the past 12 months by country and gender, and estimated persons in the population experiencing abuse and injury.

Country/gender	Psychological ^a		Physical ^b		Sexual ^c		Financial ^d		Injury ^e	
	%	Persons	%	Persons	%	Persons	%	Persons	%	Persons
<i>Germany</i> (n=648)	27.1	34,442	3.3	4,249	0.9	1,040	3.6	4,618	0.4	520
Women	26.8	18,578	2.8	1,941	1.5	1,040	3.5	2,426	0.5	347
Men	27.5	15,864	4.0	2,308	0.0	0	3.8	2,192	0.3	173
<i>Greece</i> (n=643)	13.2	71,266	3.4	18,718	1.5	8,338	4.0	21,895	1.1	5,894
Women	14.7	44,912	4.6	14,054	2.5	7,638	4.8	14,665	1.7	5,194
Men	11.3	26,354	2.0	4,664	0.3	700	3.1	7,230	0.3	700
<i>Italy</i> (n=628)	10.4	3,010	1.0	269	0.5	141	2.7	757	0.0	0
Women	6.9	1,078	1.2	187	0.6	94	2.0	312	0.0	0
Men	16.5	1,932	0.7	82	0.4	47	3.8	445	0.0	0
<i>Lithuania</i> (n=630)	24.6	17,080	3.8	2,600	0.3	179	2.8	1,937	1.5	1,068
Women	25.1	11,233	4.1	1,835	0.4	179	2.4	1,074	2.0	895
Men	23.7	5,847	3.1	765	0.0	0	3.5	863	0.7	173
<i>Portugal</i> (n=656)	21.9	13,485	2.1	1,277	1.3	791	7.8	4,777	0.7	448
Women	25.4	9,489	2	747	1.6	598	6.6	2,466	1.2	448
Men	16.6	3,996	2.2	530	0.8	193	9.6	2,311	0.0	0
<i>Spain</i> (n=636)	11.5	9,011	1.4	1,101	0.3	226	4.8	3,780	0.5	441
Women	12.8	5,700	1.4	623	0.2	89	5.5	2,449	0.3	134
Men	9.7	3,311	1.4	478	0.4	137	3.9	1,331	0.9	307
<i>Sweden</i> (n=626)	29.7	106,486	4.0	14,307	0.5	1,811	1.8	6,560	0.6	2,306
Women	24.9	47,795	2.3	4,415	0.6	1,152	1.7	3,263	0.6	1,152
Men	35.6	58,691	6.0	9,892	0.4	659	2.0	3,297	0.7	1,154
<i>Total</i> (n=4467)	19.4	244,085	2.7	33,846	0.7	8,742	3.8	48,800	0.7	8,583
Women	18.9	134,013	2.6	18,436	1.0	7,091	3.7	26,235	0.9	6,382
Men	20.0	110,072	2.8	15,410	0.3	1,651	4.1	22,565	0.4	2,201

^a=e.g. undermined or belittled what you do; ^b=e.g. kicked you; ^c=e.g. touched you in a sexual way against your will;

^d= e.g. tried to make you give money, possessions or property; ^e=e.g. you passed out from being hit on the head.

Table 1.2. Abuse and injury by demographic/socio-economic and life-style variables.

Country/gender	Psychological ^a			Physical ^b		Sexual ^c		Financial ^d		Injury ^e	
	n	%	P-values	%	P-values	%	P-values	%	P-values	%	P-values
<i>Country</i>			<i>P</i> <0.001		<i>P</i> =0.002		<i>P</i> =0.028		<i>P</i> <0.001		<i>P</i> =0.066
Germany	648	27.1		3.3		0.9		3.6		0.4	
Greece	643	13.2		3.4		1.5		4.0		1.1	
Italy	628	10.4		1.0		0.5		2.7		0.0	
Lithuania	630	24.6		3.8		0.3		2.8		1.5	
Portugal	656	21.9		2.1		1.3		7.8		0.7	
Spain	636	11.5		1.4		0.3		4.8		0.5	
Sweden	626	29.7		4.0		0.5		1.8		0.6	
<i>Age (group years)</i>			<i>P</i> <0.001		<i>P</i> =0.002		<i>P</i> =0.768		<i>P</i> =0.001		<i>P</i> =0.924
60–64	1,124	22.1		3.3		0.7		2.9		0.9	
65–69	1,088	19.6		2.1		0.9		2.8		0.6	
70–74	961	21.8		2.6		0.7		4.5		0.6	
75–79	749	14.6		2.4		0.6		4.0		0.6	
80–84	545	15.2		3.2		0.5		6.4		0.6	
<i>Gender</i>			<i>P</i> =0.455		<i>P</i> =0.567		<i>P</i> =0.003		<i>P</i> =0.33		<i>P</i> =0.056
Female	2,493	18.9		2.6		1.0		3.7		0.9	
Male	1,865	20.0		2.8		0.3		4.1		0.4	
<i>Marital Status</i>			<i>P</i> =0.002		<i>P</i> =0.229		<i>P</i> =0.39		<i>P</i> <0.001		<i>P</i> =0.01
Single	258	21.1		2.8		1.4		2.7		0.0	
Married/Cohabiting	2,841	19.7		2.7		0.6		3.0		0.6	
Divorced/Separated	331	25.2		4.1		1.3		6.4		1.9	
Widow/er	927	15.7		2.1		0.6		5.7		0.6	
<i>Migrant background</i>			<i>P</i> =0.071		<i>P</i> =0.469		<i>P</i> =0.855		<i>P</i> =0.066		<i>P</i> =0.598
Yes	4,113	19.1		2.6		0.7		3.9		0.7	
No	229	24.5		3.6		0.9		2.3		0.5	
<i>Living situation</i>			<i>P</i> =0.023		<i>P</i> =0.918		<i>P</i> =0.103		<i>P</i> =0.013		<i>P</i> =0.534
Alone	1,038	20.2		2.9		1.3		5.5		1.1	
Spouse/partner	2,161	20.4		2.5		0.5		3.2		0.5	
Spouse/partner/other ^f	693	17.8		2.8		0.8		3.0		0.8	
Other ^g	450	15.0		2.1		0.4		4.4		0.5	

Table 1.2. Continued

Country/gender	Psychological ^a			Physical ^b			Sexual ^c			Financial ^d			Injury ^e		
	n	%	P-values	%	P-values	%	P-values	%	P-values	%	P-values	%	P-values		
<i>Habitation</i>			$P<0.001$		$P=0.201$		$P=0.113$		$P<0.02$		$P=0.167$				
Own	3,332	18.2		2.4		0.6		3.5		0.6					
Rental	887	25.0		3.3		1.3		5.3		1.00					
Other ^h	139	12.6		4.4		0.7		2.8		0.0					
<i>Education</i>			$P<0.001$		$P=0.701$		$P=0.568$		$P=0.183$		$P=0.658$				
Cannot read/write	135	14.9		1.9		0.0		6.8		0.6					
Without any degree	186	15.2		2.1		0.4		4.5		1.6					
Less than primary school	335	14.5		3.8		1.0		5.8		0.7					
Primary school/similar	1,075	17.0		2.1		1.0		3.3		0.7					
Secondary school/similar	1,718	20.4		2.7		0.6		3.3		0.6					
University/similar	835	23.1		3.0		0.6		4.0		0.8					
Other ⁱ	71	30.0		4.2		1.4		6.5		0.0					
<i>Profession</i>			$P=0.001$		$P=0.12$		$P=0.152$		$P=0.075$		$P=0.455$				
Managers/professionals/assistant professionals	1,190	22.3		2.7		0.4		3.6		0.8					
Clerical support/sale workers	1,171	18.2		1.9		0.7		3.5		0.5					
Skilled agricultural/forestry/fishery workers	694	20.4		2.0		0.5		2.8		0.3					
Assemblers/elementary occupations	563	20.8		3.8		0.7		4.1		1.1					
Housewife/husband	644	13.9		3.3		1.2		5.5		0.9					
Armed forces	45	10.5		0.0		0.0		7.6		0.0					
<i>Financial support</i>			$P=0.001$		$P=0.064$		$P=0.005$		$P<0.044$		$P=0.735$				
Work	2,859	19.4		2.4		0.5		3.4		0.7					
Work pension	532	25.0		3.6		0.7		3.1		0.8					
Social/sick-leave/other pension benefits ^j	234	23.6		5.1		1.1		5.1		1.0					
Partner/spouse income	622	13.3		2.4		1.6		5.7		0.8					
Other ^k	106	17.7		1.4		0.0		3.3		0.0					

Table 1.2. Continued

Country/gender	Psychological ^a		Physical ^b		Sexual ^c		Financial ^d		Injury ^e		
	n	%	P-values	%	P-values	%	P-values	%	P-values	%	
<i>Still working (paid work)</i>			<i>P=0.013</i>		<i>P=0.492</i>		<i>P=0.172</i>		<i>P=0.575</i>		<i>P=0.894</i>
No	3,426	19.0		2.6		0.7		3.8		0.7	
Yes	736	23.8		3.2		1.1		3.4		0.7	
<i>Financial strain</i>			<i>P=0.016</i>		<i>P=0.547</i>		<i>P=0.129</i>		<i>P=0.079</i>		<i>P=0.053</i>
No	1,563	21.4		2.4		0.5		3.1		0.3	
Yes	2,791	18.3		2.8		0.8		4.2		0.9	
<i>Smoking</i>			<i>P=0.302</i>		<i>P=0.243</i>		<i>P=0.566</i>		<i>P=0.341</i>		<i>P=0.131</i>
No	3,834	19.5		2.7		0.7		3.9		0.8	
Yes	522	18.4		2.1		0.5		3.2		0.2	
<i>Drinking</i>			<i>P=0.001</i>		<i>P=0.713</i>		<i>P=0.674</i>		<i>P=0.032</i>		<i>P=0.474</i>
No	1,573	15.9		2.7		0.6		4.6		0.8	
Yes	2,783	21.3		2.7		0.8		3.4		0.6	

^a=e.g. undermined or belittled what you do; ^b=e.g. kicked you; ^c=e.g. touched you in a sexual way against your will; ^d= e.g. tried to make you give money, possessions or property; ^e=e.g. you passed out from being hit on the head; ^f=e.g. daughter; ^g=e.g. daughter; ^h=e.g. housing for elderly; ⁱ=e.g. art school; ^j=e.g. sick pension; ^k=e.g. own capital.

Table 1.3 (a). Abuse and injury by household size, BMI, health care use and somatic complaints.

Variables	Household size ^a			BMI ^b			Health Care Use ^c			Somatic complaints ^d					
	n	Mean	s.d	P-values	n	Mean	s.d.	P-values	n	Mean	s.d.	P-values			
<i>Psychological</i> ^e				<i>P=0.3399</i>				<i>P=0.4019</i>				<i>P=0.0001</i>			
No	3,574	2.1	1.16		3,471	26.7	4.23		3,514	1.3	0.21		3,584	15.2	14.05
Yes	881	2.1	0.95		852	26.6	4.18		874	1.4	0.23		883	20.4	16.78
<i>Physical</i> ^f				<i>P=0.5785</i>				<i>P=0.484</i>				<i>P=0.2226</i>			<i>P=0.0026</i>
No	4,338	2.1	1.13		4,210	26.7	4.22		4,272	1.3	0.21		4,350	16.0	14.56
Yes	117	2.0	1.04		113	26.3	4.30		116	1.3	0.24		117	22.5	19.82
<i>Sexual</i> ^g				<i>P=0.1191</i>				<i>P=0.5016</i>				<i>P=0.0011</i>			<i>P=0.0001</i>
No	4,421	2.1	1.13		4,291	26.7	4.22		4,354	1.3	0.22		4,433	16.2	14.75
Yes	34	1.8	0.90		32	26.8	4.49		34	1.4	0.22		34	25.3	13.99
<i>Financial</i> ^h				<i>P=0.0033</i>				<i>P=0.9643</i>				<i>P=0.0071</i>			<i>P=0.0002</i>
No	4,280	2.1	1.13		4,158	26.7	4.23		4,214	1.3	0.21		4,292	16.0	14.62
Yes	175	1.9	0.84		165	26.6	3.97		174	1.4	0.22		175	20.7	17.45
<i>Injury</i> ⁱ				<i>P=0.4153</i>				<i>P=0.6398</i>				<i>P=0.0208</i>			<i>P=0.0001</i>
No	4,424	2.1	1.12		4,294	26.7	4.23		4,357	1.3	0.22		4,436	16.1	14.62
Yes	31	2.0	1.15		29	26.2	3.80		31	1.4	0.20		31	34.4	21.92

^a=number of persons in the household; ^b=body mass index; ^c=number of health care visits; ^d=GGB-24, 0-96; ^e=e.g. undermined or belittled what you do; ^f=e.g. kicked you; ^g=e.g. touched you in a sexual way against your will; ^h= e.g. tried to make you give money, possessions or property; ⁱ=e.g. you passed out from being hit on the head.

Table 1.3 (b). Abuse and injury by social support, and depressive and anxiety symptoms.

Variables	Social Support ^a				Depressive symptoms ^b				Anxiety symptoms ^b			
	n	Mean	s.d	P-values	n	Mean	s.d	P-values	n	Mean	s.d	P-values
<i>Psychological</i> ^c				<i>P</i> =0.0001				<i>P</i> =0.0001				<i>P</i> =0.0001
No	3,494	68.4	14.03		3,536	5.0	4.08		3,535	4.6	3.88	
Yes	864	63.7	16.40		875	6.0	4.07		877	6.3	4.42	
<i>Physical</i> ^d				<i>P</i> =0.0013				<i>P</i> =0.0007				<i>P</i> =0.0001
No	4,246	67.6	14.50		4,294	5.1	4.06		4,297	4.9	3.99	
Yes	112	61.5	18.15		117	6.7	5.13		115	7.1	5.31	
<i>Sexual</i> ^e				<i>P</i> =0.3182				<i>P</i> =0.2349				<i>P</i> =0.0001
No	4,325	67.5	14.61		4,377	5.2	4.09		4,378	4.9	4.03	
Yes	33	64.1	17.93		34	6.2	4.98		34	8.1	5.17	
<i>Financial</i> ^f				<i>P</i> =0.0002				<i>P</i> =0.2297				<i>P</i> =0.0137
No	4,186	67.7	14.42		4,237	5.1	4.06		4,237	4.9	3.99	
Yes	172	62.3	18.51		174	5.7	4.81		175	6.0	5.07	
<i>Injury</i> ^g				<i>P</i> =0.0014				<i>P</i> =0.0001				<i>P</i> =0.0001
No	4,329	67.5	14.56		4,380	5.1	4.09		4,381	4.9	4.01	
Yes	29	56.3	21.04		31	8.7	4.29		31	9.9	5.38	

^a= MSPSS, 12-84; ^b= HADS, 0-21; ^c=e.g. undermined or belittled what you do; ^d=e.g. kicked you;

^e=e.g. touched you in a sexual way against your will; ^f= e.g. tried to make you give money, possessions or

property; ^g=e.g. you passed out from being hit on the head.

Table 1.4. Multivariate logistic regression analysis (odds ratio/95%CI) of the associations between demographics/socio-economics, life-style, health variables (e.g. somatic complaints), social support and abuse.

Independent variables	Psychological^a OR (95%CI)	Physical^b OR (95%CI)	Sexual^c OR (95%CI)	Financial^d OR (95%CI)	Injury^e OR (95%CI)
<i>Country^f</i>					
Greece	0.46 (0.31–0.68)***	0.80 (0.33–1.99)	9.76 (1.26–75.84)*	0.84 (0.37–1.92)	6.79 (0.73–63.16)
Italy	0.35 (0.24–0.51)***	0.19 (0.06–0.62)**	1.73 (0.19–16.04)	0.95 (0.43–2.07)	
Lithuania	0.80 (0.57–1.13)	0.89 (0.39–2.06)	2.14 (0.23–19.75)	1.04 (0.46–2.33)	7.38 (0.99–55.17)
Portugal	0.52 (0.37–0.72)***	0.39 (0.16–0.94)*	3.04 (0.49–18.88)	2.57 (1.35–4.92)**	1.44 (0.19–10.84)
Spain	0.38 (0.24–0.60)***	0.31 (0.09–1.06)	3.62 (0.35–37.17)	1.17 (0.50–2.73)	0.87 (0.04–17.02)
Sweden	1.18 (0.87–1.59)	1.40 (0.66–2.95)	2.40 (0.32–18.29)	0.63 (0.28–1.44)	1.06 (0.12–9.09)
Germany ⁺					
<i>Age groups^f</i>					
65–69 years	0.83 (0.64–1.07)	1.00 (0.53–1.90)	1.65 (0.55–5.01)	0.78 (0.43–1.41)	1.13 (0.34–3.73)
70–74 years	0.94 (0.72–1.24)	1.06 (0.53–2.10)	1.52 (0.41–5.70)	1.44 (0.82–2.55)	0.35 (0.07–1.70)
75–79 years	0.52 (0.38–0.71)***	0.89 (0.42–1.90)	1.44 (0.36–5.71)	1.31 (0.71–2.45)	0.68 (0.17–2.79)
80–84 years	0.63 (0.45–0.89)*	1.27 (0.56–2.89)		2.24 (1.19–4.20)*	0.85 (0.15–4.88)
60–64 ⁺					
<i>Sex^f</i>					
Male	1.11 (0.91–1.36)	1.58 (0.95–2.64)	0.71 (0.22–2.31)	2.52 (1.62–3.92)***	0.70 (0.23–2.14)
Female ⁺					
<i>Marital status^f</i>					
Married/Cohabitant	1.09 (0.58–2.05)	5.31 (1.07–26.30)*	3.60 (0.4–32.31)	0.90 (0.27–2.98)	
Divorced/separated	1.03 (0.66–1.60)	1.79 (0.54–5.89)	0.19 (0.03–1.42)	2.03 (0.81–5.10)	
Widow/er	0.86 (0.57–1.31)	0.99 (0.30–3.21)	0.23 (0.04–1.23)	1.42 (0.59–3.42)	
Single ⁺					
<i>Migrant background^f</i>					
Yes	1.04 (0.73–1.47)	1.19 (0.54–2.62)	1.19 (0.54–2.62)	0.58 (0.20–1.62)	1.38 (0.15–12.31)
No ⁺					

Table 1.4. Continued

Independent variables	Psychological ^a OR (95%CI)	Physical ^b OR (95%CI)	Sexual ^c OR (95%CI)	Financial ^d OR (95%CI)	Injury ^e OR (95%CI)
<i>Living situation^f</i>					
Spouse/partner	1.37 (0.76–2.48)	0.47 (0.12–1.82)	0.17 (0.02–1.44)	1.32 (0.43–4.08)	0.17 (0.02–1.86)
Spouse/partner/other ^h	1.52 (0.75–3.07)	1.13 (0.21–6.15)	0.90 (0.03–25.25)	1.64 (0.40–6.82)	0.16 (0.01–3.89)
Other ⁱ	1.15 (0.74–1.78)	2.03 (0.69–5.93)	1.46 (0.12–17.43)	1.28 (0.55–2.97)	0.38 (0.04–3.61)
Alone ⁺					
<i>Habitation^f</i>					
Rental	1.28 (1.02–1.60)*	1.27 (0.75–2.15)	1.72 (0.67–4.38)	1.30 (0.85–1.99)	1.59 (0.53–4.73)
Other ^j	0.84 (0.47–1.51)	2.17 (0.70–6.68)	1.63 (0.18–15.00)	0.70 (0.24–2.03)	
Own ⁺					
<i>Education^f</i>					
Without any degree	1.54 (0.63–3.76)	1.89 (0.18–19.66)		0.53 (0.13–2.13)	
Less primary school	1.15 (0.50–2.64)	2.43 (0.28–20.81)		0.75 (0.24–2.34)	
Primary school/similar	1.36 (0.61–3.00)	1.47 (0.17–12.39)		0.64 (0.22–1.92)	
Secondary school/similar		1.72 (0.77–3.85)	2.15 (0.25–18.43)		0.79 (0.26–2.43)
University /similar	1.93 (0.83–4.45)	2.43 (0.26–22.85)		1.30 (0.39–4.37)	
Other ^k	2.17 (0.81–5.87)	2.59 (0.19–35.32)		1.62 (0.30–8.64)	
Cannot read nor write ⁺					
<i>Profession^f</i>					
Clerical support/sale workers	0.97 (0.74–1.27)	0.98 (0.48–2.01)	1.48 (0.33–6.67)	1.38 (0.79–2.43)	0.84 (0.19–3.73)
Skilled agricultural/forestry/fishery workers	1.36 (0.99–1.86)	1.10 (0.48–2.54)	0.87 (0.13–5.85)	0.74 (0.36–1.50)	0.41 (0.06–2.85)
Assemblers/elementary occupations	1.35 (0.95–1.90)	2.10 (0.94–4.71)	2.01 (0.32–12.78)	1.30 (0.64–2.65)	1.43 (0.29–7.06)
Housewife/husband	1.18 (0.75–1.84)	3.02 (1.11–8.18) *	2.49 (0.35–18.03)	1.87 (0.79–4.41)	1.59 (0.19–13.55)
Armed forces	0.90 (0.33–2.43)			2.77 (0.85–9.05)	
Managers/professionals/assistant professionals ⁺					

Table 1.4. Continued

Independent variables	Psychological^a OR (95%CI)	Physical^b OR (95%CI)	Sexual^c OR (95%CI)	Financial^d OR (95%CI)	Injury^e OR (95%CI)
<i>Financial support^f</i>					
Working	1.21 (0.80–1.82)	1.34 (0.49–3.63)	0.28 (0.05–1.46)	0.84 (0.35–2.00)	0.90 (0.13–6.33)
Social/sick-leave/other pension benefits ^l	0.93 (0.63–1.37)	1.76 (0.79–3.94)	0.89 (0.15–5.16)	1.00 (0.48–2.10)	0.39 (0.06–2.53)
Spouse/partner income	0.93 (0.63–1.38)	1.06 (0.42–2.68)	4.01 (1.00–16.01)*	1.82 (0.91–3.64)	0.47 (0.06–3.64)
Other ^m	0.91 (0.51–1.62)	0.44 (0.06–3.41)		1.07 (0.36–3.18)	
Work pension ⁺					
<i>Still working (paid work)^f</i>					
Yes	0.85 (0.60–1.21)	0.98 (0.40–2.42)	5.99 (1.84–19.52)**	1.28 (0.65–2.51)	1.18 (0.21–6.73)
No ⁺					
<i>Financial strain^f</i>					
Yes	0.72 (0.59–0.88)**	1.18 (0.21–6.73)	1.18 (0.21–6.73)	1.16 (0.77–1.75)	1.16 (0.77–1.75)
No ⁺					
<i>Smoking^f</i>					
Yes	0.86 (0.65–1.13)	1.16 (0.77–1.75)	1.16 (0.77–1.75)	0.91 (0.51–1.61)	0.91 (0.51–1.61)
No ⁺					
<i>Drinking^f</i>					
Yes	1.31 (1.06–1.63)*	1.34 (0.80–2.25)	1.34 (0.80–2.25)	0.34 (0.80–2.25)	1.34 (0.80–2.25)
No ⁺					

Table 1.4. Continued

Independent variables	Psychological ^a OR (95%CI)	Physical ^b OR (95%CI)	Sexual ^c OR (95%CI)	Financial ^d OR (95%CI)	Injury ^e OR (95%CI)
<i>Household size</i> ^{g, n}	0.96 (0.83–1.11)	0.71 (0.45–1.10)	0.36 (0.10–1.38)	0.79 (0.54–1.18)	1.25 (0.58–2.67)
<i>BMI</i> ^{g, o}	0.99 (0.97–1.01)	0.99 (0.94–1.04)	0.97 (0.88–1.07)	1.01 (0.96–1.05)	0.90 (0.81–1.00)
<i>Health care use</i> ^{g, p}	1.69 (1.15–2.49)**	1.33 (0.56–3.18)	6.45 (1.36–30.62)*	1.13 (0.50–2.54)	2.15 (0.37–12.41)
<i>Somatic complaints</i> ^{g, q}	1.02 (1.01–1.03)***	1.02 (1.00–1.03)*	1.03 (1.00–1.06)	1.00 (0.99–1.02)	1.05 (1.02–1.08)**
<i>Social support</i> ^{g, r}	0.98 (0.98–0.99)***	0.99 (0.97–1.00)	0.99 (0.96–1.02)	0.99 (0.98–1.00)*	0.97 (0.94–0.99)*
<i>Depressive symptoms</i> ^{g, s}	1.01 (0.98–1.04)	1.02 (0.94–1.09)	0.87 (0.75–1.01)	0.95 (0.90–1.01)	0.97 (0.84–1.12)
<i>Anxiety symptoms</i> ^{g, s}	1.08 (1.05–1.11)***	1.09 (1.02–1.16)*	1.18 (1.06–1.33)**	1.07 (1.01–1.13)*	1.14 (1.02–1.29)*

⁺=baseline; ^a=e.g. undermined or belittled what you do; ^b=e.g. kicked you; ^c=e.g. touched you in a sexual way against your will; ^d= e.g. tried to make you give money, possessions or property; ^e=e.g. you passed out from being hit on the head; ^f=categorical variables; ^g=continuous variables; ^h=e.g. daughter; ⁱ=e.g. daughter; ^j=e.g. housing for elderly people; ^k=e.g. art school; ^l=e.g. sick pension; ^m=e.g. own capital; ⁿ= number of people in the household; ^o=body mass index; ^p=number of health care visits; ^q=GGB–24, 0–96; ^r=MSPSS, 12–84; ^s=HADS, 0–21; * $P < 0.05$; ** $P < 0.01$; *** $P < 0.0001$.

3.2. Perpetrators

As shown in Table 1.5, across countries, spouses/partners were the most common perpetrators of psychological (34.8%) and physical (33.7%) abuse, and injuries (44.8%), but differences were not significant. Although not significant either, the respective figures for offspring/grandchildren were 18.1%, 13.5% and 6.9%; for other relatives 16%, 6.7% and 6.9%; and for “others” 21%, 31.7% and 27.6%. Finally, for friends/acquaintances/neighbours the respective figures were 27.7%, 13.5% and 13.8%, with the perpetration of psychological abuse occurring more often than the physical abuse and injuries ($p=0.0345$).

Most sexual abuse was inflicted by friends/acquaintances/neighbours (30.3%) followed by “others” (27.3%), spouses/partners (24.2%), offspring/grandchildren (3%) and other relatives (3%), with offspring/grandchildren and other relatives inflicting significantly less often sexual abuse than the other perpetrators ($p<0.0001$).

Most financial abuse was inflicted by “others” (61.7%) followed by offspring/grandchildren (11.4%), friends/acquaintances/neighbours (9%), other relatives (8.4%) and spouses/partners (5.4%), with a significant difference between “others” and the rest of the perpetrators ($p<0.0001$).

3.2.1. Table

Table 1.5. Perpetrators by abuse and injury across countries (%).

Perpetrators	Psychological (n=840) ^a	Physical (n=104) ^b	Sexual (n=33) ^c	Financial (n=167) ^d	Injury (n=29) ^e
Spouse/partner	34.8	33.7	24.2	5.4	44.8
Children/grandchildren	18.1	13.5	3.0	11.4	6.9
Other relatives ^f	16.0	6.7	3.0	8.4	6.9
Friends/acquaintances/ neighbours	27.7	13.5	30.3	9.0	13.8
Others ^g	21.0	31.7	27.3	61.7	27.6

^a=e.g. undermined or belittled what you do; ^b=e.g. kicked you; ^c=e.g. touched you in a sexual way against your will; ^d= e.g. tried to make you give money, possessions or property; ^e=e.g. you passed out from being hit on the head; ^f=e.g. grand-parents; ^g=e.g. care staff.

3.3. Depressive symptoms

3.3.1. Demographics/socio-economics, life-style

As shown in Table 2.1, elderly from Greece, Lithuania and Portugal scored higher in depressive symptoms than those from Germany, Italy, Spain and Sweden.

The older age groups (70–74, 75–79, 80–84 years) scored higher in depressive symptoms than the younger (60–64, 65–69 years).

Female, widow/er and low educated participants scored higher in depressive symptoms than counterparts. Additionally, elderly living with other persons (e.g. daughter), housewives/husbands, skilled agricultural/forestry/fishery workers and who had assemblers/elementary occupations scored high in depressive symptoms. Similar results were found among elderly who were financially supported by social/sick-leave/other pension benefits and spouses/partners income, did not work and were financially strained. Finally, elderly who did not drink reported greater scores in depressive symptoms than counterparts. There were no other significant differences.

3.3.2. Household, BMI, health, social support

As shown in Table 2.2, BMI, use of health care and somatic complaints were positively correlated with depressive symptoms, indicating that the higher the scores in these variables the greater the levels of depressive symptoms.

Social support was negatively correlated with depressive symptoms, suggesting that the lower the scores in this variable the greater the levels of depressive symptoms. Household type was not correlated with depressive symptoms.

3.3.3. Depressive symptoms by abuse, injury

As shown in Table 2.3, elderly exposed to psychological, physical and sexual abuse reported greater scores in depressive symptoms than non-exposed. There were no significant differences concerning financial abuse and injuries.

3.3.4. Factors associated with depressive symptoms

As shown in Table 2.4, being from Greece, Italy, Lithuania and Portugal and financially strained, exposed to psychological abuse and injuries and scoring high in somatic complaints were associated with increased levels of depressive symptoms. Being from Spain, having basic/high educational levels, using alcohol and scoring high in social support were associated with decreased levels of depressive symptoms.

3.3.5. Tables

Table 2.1. Depressive symptoms by demographic/socio-economic and life-style variables.

Variables	Depressive symptoms ^a		P-values
	n	Mean (s.d.)	
<i>Country</i>			<i>P</i> <0.0001
Germany	615	3.4 (3.04)	
Greece	643	7.3 (4.59)	
Italy	613	4.6 (3.97)	
Lithuania	630	7.3 (2.78)	
Portugal	652	5.5 (3.85)	
Spain	636	4.5 (4.91)	
Sweden	622	3.4 (2.82)	
<i>Age (group years)</i>			<i>P</i> <0.0001
60–64	1,112	4.5 (3.62)	
65–69	1,078	4.6 (3.77)	
70–74	943	5.6 (4.29)	
75–79	737	5.8 (4.46)	
80–84	541	6.2 (4.44)	
<i>Sex</i>			<i>P</i> <0.0001
Female	2,527	5.5 (4.26)	
Male	1,884	4.6 (3.78)	
<i>Marital Status</i>			<i>P</i> <0.0001
Single	262	5.3 (4.40)	
Married/Cohabiting	2,873	4.6 (3.76)	
Divorced/Separated	339	5.2 (3.88)	
Widow/er	936	6.8 (4.58)	

Table 2.1. Continued.

Variables	Depressive symptoms ^a		P-values
	n	Mean (s.d.)	
<i>Migrant status</i>			<i>P</i> =0.0264
Yes	4,164	5.2 (4.11)	
No	231	4.6 (3.87)	
<i>Living situation</i>			<i>P</i> <0.0001
Alone	1,055	5.8 (4.32)	
Partner/spouse	2,183	4.5 (3.65)	
Partner/spouse/others ^b	702	4.9 (4.04)	
Others ^c	456	7.1 (4.74)	
<i>Habitation</i>			<i>P</i> =0.2368
Own	3,359	5.1 (4.04)	
Rental	911	5.2 (4.21)	
Other ^d	140	5.7 (4.71)	
<i>Education</i>			<i>P</i> <0.0001
Cannot read/write	136	7.7 (5.49)	
Without any degree	187	6.1 (5.43)	
Less than primary school	336	6.6 (4.95)	
Primary school/similar	1,084	5.6 (4.14)	
Secondary school/similar	1,745	4.9 (3.68)	
University/similar	848	4.0 (3.42)	
Other ^e	72	5.2 (3.16)	
<i>Profession</i>			<i>P</i> <0.0001
Managers/professionals/assistant professionals	1,205	4.2 (3.47)	
Clerical support/sale workers	1,190	4.6 (3.66)	
Skilled agricultural/forestry/fishery workers	697	5.7 (4.20)	
Assemblers/elementary occupations	567	6.4 (4.56)	
Housewife/husband	652	6.4 (4.73)	
Armed forces	45	3.1 (3.29)	
<i>Financial support</i>			<i>P</i> <0.0001
Work	2,898	5.0 (3.83)	
Work pension	537	3.8 (3.33)	
Social/sick-leave/other pension benefits ^f	242	7.0 (4.98)	
Partner/spouse income	623	6.3 (4.91)	
Other ^g	106	5.1 (3.62)	
<i>Still working (paid work)</i>			<i>P</i> <0.0001
No	3,470	5.4 (4.16)	
Yes	744	4.0 (3.28)	
<i>Financial strain</i>			<i>P</i> <0.0001
No	1,581	4.0 (3.57)	
Yes	2,826	5.8 (4.23)	
<i>Smoking</i>			<i>P</i> =0.5693
No	3,875	5.1 (4.10)	
Yes	533	5.2 (4.04)	
<i>Drinking</i>			<i>P</i> <0.0001
No	1,583	6.4 (4.65)	
Yes	2,825	4.4 (3.55)	

^a=HADS, 0-21; ^b=e.g. daughter; ^c=e.g. daughter; ^d=e.g. housing for elderly; ^e=e.g. art school; ^f=e.g. sick pension; ^g=e.g. own capital.

Table 2.2. Correlations ^b between depressive symptoms, household size, BMI, health variables (e.g. somatic symptoms) and social support.

Variables	Depressive symptoms ^a
<i>Household size</i> ^d	-0.0274 ^c
<i>BMI</i> ^e	0.0670 *
<i>Health care use</i> ^f	0.0528 *
<i>Somatic complaints</i> ^g	0.4654 *
<i>Social support</i> ^h	-0.2908 *

^a=HADS, 0-21; ^b=Spearman correlation; ^c=correlation coefficients;

^d=number of people in the household; ^e=Body mass index;

^f=number of health care contacts; ^g=GBB-24, 0-96; ^h=MSPSS, 12-84; * $P < 0.05$.

Table 2.3. Depressive symptoms by abuse type and injury.

Variables	Depressive symptoms ^a		P-values
	n	Mean (s.d.)	
<i>Psychological</i> ^b			$P < 0.0001$
No	3,536	5.0 (4.08)	
Yes	875	6.0 (4.07)	
<i>Physical</i> ^c			$P = 0.0007$
No	4,294	5.1 (4.06)	
Yes	117	6.7 (5.13)	
<i>Sexual</i> ^d			$P < 0.0001$
No	4,380	5.1 (4.09)	
Yes	31	8.7 (4.29)	
<i>Financial</i> ^e			$P = 0.2297$
No	4,237	5.1 (4.06)	
Yes	174	5.7 (4.81)	
<i>Injury</i> ^f			$P = 0.2349$
No	4,377	5.2 (4.09)	
Yes	34	6.2 (4.98)	

^a=HADS, 0-21; ^b=e.g. undermined or belittled what you do; ^c=e.g. kicked you;

^d=e.g. touched you in a sexual way against your will; ^e= e.g. tried to make you give money, possessions or property; ^f=e.g. you passed out from being hit on the head.

Table 2.4. Multivariate linear regression analysis un-standardized betas, β ; standard error, (SE), of the associations between demographics/socio-economics, life-style, health variables (e.g. somatic complaints), abuse and depressive symptoms.

Independent variables	Depressive symptoms ^a β (SE)
<i>Country</i> ^b	
Greece	3.89 (0.28) ***
Italy	0.84 (0.25) **
Lithuania	3.37 (0.26) ***
Portugal	0.97 (0.25) ***
Spain	-0.79 (0.30) *
Sweden	0.35 (0.25)
Germany ⁺	
<i>Age groups</i> ^b	
65–69 years	-0.34 (0.18)
70–74 years	0.21 (0.20)
75–79 years	0.33 (0.25)
80–84 years	0.24 (0.15)
60–64 ⁺	
<i>Sex</i> ^b	
Male	0.24 (0.15)
Female ⁺	
<i>Marital status</i> ^b	
Married/Cohabitant	0.01 (0.47)
Divorced/separated	-0.12 (0.34)
Widow/er	0.26 (0.30)
Single ⁺	
<i>Migrant background</i> ^b	
Yes	0.05 (0.27)
No ⁺	
<i>Living situation</i> ^b	
Spouse/partner	0.33 (0.44)
Spouse/partner/other ^d	-0.10 (0.48)
Other ^e	0.12 (0.27)
Alone ⁺	
<i>Habitation</i> ^b	
Rental	-0.08 (0.17)
Other ^f	-0.09 (0.37)
Own ⁺	

Table 2.4. Continued.

Independent variables	Depressive symptoms ^a β (SE)
<i>Education</i> ^b	
Without any degree	-0.91 (0.55)
Less primary school	-0.44 (0.50)
Primary school/similar	-1.08 (0.47)*
Secondary school/similar	-1.00 (0.48)*
University /similar	-1.03 (0.51)*
Other ^g	-0.68 (0.69)
Cannot read nor write ⁺	
<i>Profession</i> ^b	
Clerical support/sale workers	0.05 (0.20)
Skilled agricultural/forestry/fishery workers	0.18 (0.24)
Assemblers/elementary occupations	0.33 (0.26)
Housewife/husband	-0.11 (0.32)
Armed forces	-0.66 (0.57)
Managers/professionals/assistant professionals ⁺	
<i>Financial support</i> ^b	
Working	0.26 (0.30)
Social/sick-leave/other pension benefits ^h	0.29 (0.29)
Spouse/partner income	0.38 (0.27)
Other ⁱ	0.58 (0.41)
Work pension ⁺	
<i>Still working (paid work)</i> ^b	
Yes	
No ⁺	-0.32 (0.26)
<i>Financial strain</i> ^b	
Yes	
No ⁺	0.46 (0.14)**
<i>Smoking</i> ^b	
Yes	
No ⁺	0.16 (0.19)
<i>Drinking</i> ^b	
Yes	
No ⁺	-0.3 (0.15)*
<i>Household size</i> ^{c,j}	
BMI ^{c,k}	0 (0.02)
Health care use ^{c,l}	0.54 (0.30)
Somatic complaints ^{c,m}	0.09 (0.01)***
Social support ^{c,n}	-0.87 (0.06)***

Table 2.4. Continued.

Independent variables	Depressive symptoms ^a β (SE)
<i>Psychological abuse</i> ^{b, o}	
Yes	0.55 (0.16)**
No ⁺	
<i>Physical abuse</i> ^{b, p}	
Yes	-0.19 (0.42)
No ⁺	
<i>Sexual abuse</i> ^{b, q}	
Yes	0.08 (0.79)
No ⁺	
<i>Financial abuse</i> ^{b, r}	
Yes	-0.31 (0.33)
No ⁺	
<i>Injury</i> ^{b, s}	
Yes	-1.81 (0.71) *
No ⁺	

⁺=Baseline; ^a=HADS, 0–21; ^b=categorical variables; ^c=continuous variables;

^d=e.g. daughter; ^e=e.g. daughter; ^f=e.g. housing for elderly people; ^g=e.g. art school; ^h=e.g. sick pension; ⁱ=e.g. own capital; ^j=number of people in the household; ^k=body mass index; ^l=number of health care visits; ^m=GBB–24, 0–96; ⁿ=MSPSS, 12–84; ^o=e.g. undermined or belittled what you do; ^p=e.g. kicked you; ^q=e.g. touched you in a sexual way against your will; ^r= e.g. tried to make you give money, possessions or property; ^s=e.g. you passed out from being hit on the head.

* $P < 0.05$; ** $P < 0.01$; *** $P < 0.0001$.

3.4. Anxiety symptoms

3.4.1. Demographics/socio-economics, life-style

As shown in Table 3.1, elderly from Greece, Lithuania and Portugal scored higher in anxiety symptoms than those from Germany, Italy, Spain and Sweden.

The older age groups (70–74, 75–79, 80–84 years) scored slightly higher in anxiety symptoms than the younger (60–64 and 65–69 years).

Female, widow/er, analphabetic and low educated participants scored higher in anxiety symptoms than counterparts. Additionally, elderly living with other persons (e.g. daughter), housewives/husbands and who had assemblers/elementary occupations scored high in anxiety symptoms. Similar findings were found among elderly who did not work, and were supported by social/sick-leave/other pension benefits and spouses/partners income, and financially strained. Finally, elderly who did not drink reported greater scores in anxiety symptoms than counterparts. There were no other significant differences.

3.4.2. Household, BMI, health, social support

As shown in Table 3.2, health care use and somatic complaints were positively correlated with anxiety symptoms, indicating that the higher the scores in these variables the greater the levels of anxiety symptoms.

Social support was negatively correlated with anxiety symptoms, suggesting that the lower the scores in this variable the greater the levels of anxiety symptoms. There were no significant correlations between anxiety symptoms, BMI and household type.

3.4.3. Anxiety symptoms by abuse, injury

As shown in Table 3.3, elderly exposed to all forms of abuse and injuries reported greater scores in anxiety symptoms than non-exposed.

3.4.4. Factors associated with anxiety symptoms

As shown in Table 3.4, being from Greece and Lithuania and financially strained, BMI, exposed to psychological abuse and scoring high in somatic complaints were associated with increased levels of anxiety symptoms. Being from Spain, male and divorced/separated, and scoring high in social support were associated with decreased levels of anxiety symptoms.

3.4.5. Tables

Table 3.1. Anxiety symptoms by demographic/socio-economic and life-style variables.

Variables	Anxiety symptoms ^a		P-values
	n	Mean (s.d.)	
<i>Country</i>			<i>P</i> <0.0001
Germany	624	3.9 (3.21)	
Greece	643	5.8 (4.57)	
Italy	605	4.2 (3.69)	
Lithuania	630	6.0 (3.76)	
Portugal	652	5.8 (4.00)	
Spain	636	5.0 (4.75)	
Sweden	622	4.1 (3.44)	
<i>Age (group years)</i>			<i>P</i> =0.0155
60–64	1,108	4.8 (3.89)	
65–69	1,079	4.6 (3.83)	
70–74	953	5.2 (4.03)	
75–79	733	5.3 (4.50)	
80–84	539	5.1 (4.12)	
<i>Sex</i>			<i>P</i> <0.0001
Female	2,524	5.6 (4.23)	
Male	1,888	4.0 (3.55)	
<i>Marital Status</i>			<i>P</i> <0.0001
Single	266	5.1 (4.09)	
Married/Cohabiting	2,864	4.6 (3.84)	
Divorced/Separated	341	5.2 (4.11)	
Widow/er	940	5.9 (4.44)	
<i>Migrant status</i>			<i>P</i> =0.1327
Yes	4,165	5.0 (4.07)	
No	231	4.5 (3.62)	
<i>Living situation</i>			<i>P</i> <0.0001
Alone	1,066	5.4 (4.29)	
Partner/spouse	2,178	4.5 (3.78)	
Partner/spouse/others ^b	697	4.9 (4.01)	
Others ^c	455	6.2 (4.41)	
<i>Habitation</i>			<i>P</i> =0.0121
Own	3,354	4.9 (4.02)	
Rental	914	5.3 (4.15)	
Other ^d	143	5.3 (3.98)	

Table 3.1. Continued.

Variables	Anxiety symptoms ^a		P-values
	n	Mean (s.d.)	
<i>Education</i>			<i>P</i> <0.0001
Cannot read/write	136	6.9 (5.19)	
Without any degree	187	5.4 (4.68)	
Less than primary school	337	6.3 (4.76)	
Primary school/similar	1,081	5.3 (4.09)	
Secondary school/similar	1,749	4.7 (3.82)	
University/similar	848	4.2 (3.49)	
Other ^c	71	4.7 (3.44)	
<i>Profession</i>			<i>P</i> <0.0001
Managers/professionals/assistant professionals	1,207	4.3 (3.66)	
Clerical support/sale workers	1,190	4.6 (3.81)	
Skilled agricultural/forestry/fishery workers	699	5.1 (4.15)	
Assemblers/elementary occupations	568	5.6 (4.39)	
Housewife/husband	650	6.1 (4.39)	
Armed forces	43	3.6 (3.72)	
<i>Financial support</i>			<i>P</i> <0.0001
Work	2,896	4.7 (3.83)	
Work pension	538	4.4 (3.65)	
Social/sick-leave/other pension benefits ^f	241	6.4 (4.97)	
Partner/spouse income	623	6.2 (4.55)	
Other ^g	109	5.2 (3.79)	
<i>Still working (paid work)</i>			<i>P</i> =0.0173
No	3,469	5.0 (4.09)	
Yes	746	4.4 (3.56)	
<i>Financial strain</i>			<i>P</i> <0.0001
No	1,585	3.7 (3.47)	
Yes	2,823	5.7 (4.17)	
<i>Smoking</i>			<i>P</i> =0.5380
No	3,879	5.0 (4.02)	
Yes	530	5.0 (4.22)	
<i>Drinking</i>			<i>P</i> <0.0001
No	1,586	5.8 (4.38)	
Yes	2,823	4.5 (3.76)	

^a=HADS, 0–21; ^b=e.g. daughter; ^c=e.g. daughter; ^d=e.g. housing for elderly; ^e=e.g. art school; ^f=e.g. sick pension; ^g=e.g. own capital.

Table 3.2. Correlations^b between anxiety symptoms, household size, BMI, health variables (e.g. somatic symptoms) and social support.

Variables	Anxiety symptoms ^a
<i>Household size</i> ^d	-0.0112 ^c
<i>BMI</i> ^e	0.0187
<i>Health care use</i> ^f	0.1047 *
<i>Somatic complaints</i> ^g	0.4616 *
<i>Social support</i> ^h	-0.2104 *

^a=HADS, 0-21; ^b=Spearman correlation; ^c=correlation coefficients;

^d=number of people in the household; ^e=body mass index;

^f=number of health care contacts; ^g=GBB-24, 0-96; ^h=MSPSS, 12-84; * $P < 0.05$.

Table 3.3. Anxiety symptoms by abuse type and injury.

Variables	Anxiety symptoms ^a		P-values
	n	Mean (s.d.)	
<i>Psychological</i> ^b			$P < 0.0001$
No	3,535	4.6 (3.87)	
Yes	877	6.3 (4.42)	
<i>Physical</i> ^c			$P = 0.0001$
No	4,297	4.9 (3.98)	
Yes	115	7.1 (5.34)	
<i>Sexual</i> ^d			$P < 0.0001$
No	4,378	4.9 (4.02)	
Yes	34	8.4 (5.29)	
<i>Financial</i> ^e			$P = 0.0137$
No	4,237	4.9 (3.99)	
Yes	175	6.1 (5.04)	
<i>Injury</i> ^f			$P < 0.0001$
No	4,381	4.9 (4.00)	
Yes	31	10.2 (5.42)	

^a=HADS, 0-21; ^b=e.g. undermined or belittled what you do; ^c=e.g. kicked you;

^d=e.g. touched you in a sexual way against your will; ^e= e.g. tried to make you give money, possessions or property; ^f=e.g. you passed out from being hit on the head.

Table 3.4. Multivariate linear regression analysis un-standardized betas, β ; standard error, (SE), of the associations between demographics/socio-economics, life-style, health variables (e.g. somatic complaints), social support, abuse and anxiety symptoms.

Independent variables	Anxiety symptoms ^a β (SE)
<i>Country</i> ^b	
Greece	1.14 (0.30)***
Italy	-0.27 (0.27)
Lithuania	0.64 (0.28)*
Portugal	0.15 (0.27)
Spain	-0.66 (0.33)*
Sweden	0.20 (0.26)
Germany ⁺	
<i>Age groups</i> ^b	
65–69 years	-0.07 (0.20)
70–74 years	0.17 (0.21)
75–79 years	-0.26 (0.23)
80–84 years	-0.51 (0.27)
60–64 ⁺	
<i>Sex</i> ^b	
Male	-0.61 (0.16)***
Female ⁺	
<i>Marital status</i> ^b	
Married/Cohabitant	-0.51 (0.50)
Divorced/separated	-0.72 (0.36)*
Widow/er	-0.58 (0.32)
Single ⁺	
<i>Migrant background</i> ^b	
Yes	0.12 (0.29)
No ⁺	
<i>Living situation</i> ^b	
Spouse/partner	0.56 (0.47)
Spouse/partner/other ^d	0.60 (0.52)
Other ^e	0.56 (0.30)
Alone ⁺	
<i>Habitation</i> ^b	
Rental	-0.16 (0.18)
Other ^f	0.69 (0.39)
Own ⁺	

Table 3.4. Continued.

Independent variables	Anxiety symptoms ^a β (SE)
<i>Education</i> ^b	
Without any degree	-0.50 (0.59)
Less primary school	-0.31 (0.54)
Primary school/similar	-0.82 (0.51)
Secondary school/similar	-0.80 (0.52)
University/similar	-0.77 (0.56)
Other ^g	-0.67 (0.75)
Cannot read nor write ⁺	
<i>Profession</i> ^b	
Clerical support/sale workers	0.05 (0.20)
Skilled agricultural/forestry/fishery workers	0.18 (0.24)
Assemblers/elementary occupations	0.33 (0.26)
Housewife/husband	-0.11 (0.32)
Armed forces	-0.66 (0.57)
Managers/professionals/assistant professionals ⁺	
<i>Financial support</i> ^b	
Working	0.44 (0.33)
Social/sick-leave/other pension benefits ^h	0.05 (0.31)
Spouse/partner income	0.43 (0.29)
Other ⁱ	0.08 (0.44)
Work pension ⁺	
<i>Still working (paid work)</i> ^b	
Yes	0.12 (0.28)
No ⁺	
<i>Financial strain</i> ^b	
Yes	0.88 (0.15)***
No ⁺	
<i>Smoking</i> ^b	
Yes	0.36 (0.21)
No ⁺	
<i>Drinking</i> ^b	
Yes	-0.11 (0.16)
No ⁺	
<i>Household size</i> ^{c,j}	
BMI ^{c,k}	-0.09 (0.08)
Health care use ^{c,l}	-0.06 (0.02)***
Somatic complaints ^{c,m}	0.40 (0.32)
Social support ^{c,n}	0.12 (0.01)***
	-0.52 (0.06)***

Table 3.4. Continued.

Independent variables	Anxiety symptoms ^a β (SE)
<i>Psychological abuse</i> ^{b, o}	
Yes	0.54 (0.17)**
No ⁺	
<i>Physical abuse</i> ^{b, p}	
Yes	0.32 (0.45)
No ⁺	
<i>Sexual abuse</i> ^{b, q}	
Yes	0.11 (0.85)
No ⁺	
<i>Financial abuse</i> ^{b, r}	
Yes	0.31 (0.35)
No ⁺	
<i>Injury</i> ^{b, s}	
Yes	0.76 (0.77)
No ⁺	

⁺=Baseline; ^a=HADS, 0–21; ^b=categorical variables; ^c=continuous variables; ^d=e.g. daughter; ^e=e.g. daughter; ^f=e.g. housing for elderly people; ^g=e.g. art school; ^h=e.g. sick pension; ⁱ=e.g. own capital; ^j=number of people in the household; ^k=body mass index; ^l=number of health care visits; ^m=GBB–24, 0–96; ⁿ=MSPSS, 12–84; ^o=e.g. undermined or belittled what you do; ^p=e.g. kicked you; ^q=e.g. touched you in a sexual way against your will; ^r=e.g. tried to make you give money, possessions or property; ^s=e.g. you passed out from being hit on the head.
* $P < 0.05$; ** $P < 0.01$; *** $P < 0.0001$.

3.5. Somatic complaints

3.5.1. Demographics/socio-economics, life-style

As shown in Table 4.1, elderly from Lithuania, Portugal and Spain reported higher levels of somatic complaints than those from Germany, Greece, Italy and Sweden.

The oldest groups (75–79, 80–84 years) reported more somatic complaints than the younger (60–64, 65–69, 70–74 years).

Female, widow/er, migrant and low educated participants reported more somatic complaints than counterparts. In addition, elderly living alone, with other persons (e.g. daughter) and in other housing (e.g. homes for elderly people), housewives/husbands, skilled agricultural/forestry/fishery workers and who had assemblers/elementary occupations scored high in somatic complaints. Similar findings were found among elderly financially supported by social/sick-leave/other pension benefits and spouses/partners income, who still working and were financially strained. Finally, elderly who did not smoke and drink reported higher levels of somatic complaints than counterparts. There were no other significant differences.

3.5.2. Household, BMI, health, social support

As shown in Table 4.2, household size was negatively correlated with somatic complaints, suggesting that the lower the household the higher the level of somatic complaints.

BMI, health care use, and depressive and anxiety symptoms were positively correlated with somatic complaints, indicating that the higher the scores in these variables the greater the levels of somatic complaints.

Social support was negatively correlated with somatic complaints, suggesting that the lower the scores in this variable the greater the levels of somatic complaints.

3.5.3. Somatic complaints by abuse, injury

As shown in Table 4.3, elderly exposed to all forms of abuse and injuries reported higher levels of somatic complaints than non-exposed.

3.5.4. Factors associated with somatic complaints

As shown in Table 4.4, being from Lithuania and Portugal were associated with high levels of somatic complaints and being from Sweden the opposite.

Similarly, being aged 75–79 and 80–84 years, widow/er, living in other housing (e.g. housing for elderly persons), having financial support by social/sickness/other pension benefits, BMI, health care use, scoring low in social support, scoring high in depressive and anxiety symptoms, and exposure to psychological and sexual abuse and injuries were associated with high levels of somatic complaints. Being a male was associated with decreased levels of somatic complaints.

3.5.5. Tables

Table 4.1. Somatic complaints by demographic-socio-economic and life-style variables.

Variables	Somatic complaints ^a		P-values
	n	Mean (s.d.)	
<i>Country</i>			<i>P</i> <0.0001
Germany	648	12.3 (12.30)	
Greece	643	16.6 (15.46)	
Italy	628	12.7 (10.84)	
Lithuania	630	21.4 (14.40)	
Portugal	656	22.5 (16.61)	
Spain	636	19.3 (17.30)	
Sweden	626	9.4 (10.08)	
<i>Age groups</i>			<i>P</i> <0.0001
60–64	1,124	13.5 (13.23)	
65–69	1,088	14.5 (14.20)	
70–74	961	17.5 (15.30)	
75–79	749	19.6 (16.25)	
80–84	545	19.0 (14.58)	
<i>Sex</i>			<i>P</i> <0.0001
Female	2,559	19.0 (15.79)	
Male	1,908	19.0 (15.79)	
<i>Marital status</i>			<i>P</i> <0.0001
Single	270	15.1 (13.49)	
Married/Cohabitant	2,903	14.4 (13.23)	
Divorced/Separated	343	17.8 (17.37)	
Widow/er	950	21.6 (16.99)	
<i>Migrant background</i>			<i>P</i> =0.0243
Yes	4,211	16.4 (14.88)	
No	238	13.6 (12.46)	

Table 4.1. Continued.

Variables	Somatic complaints ^a		P-values
	n	Mean (s.d.)	
<i>Living situation</i>			<i>P</i> <0.0001
Alone	1,078	18.8 (16.21)	
Spouse/partner	2,208	14.2 (13.09)	
Spouse/partner/other ^b	706	14.9 (13.48)	
Other ^c	457	22.3 (17.84)	
<i>Habitation</i>			<i>P</i> =0.0002
Own	3,392	15.8 (14.55)	
Rental	930	17.3 (15.12)	
Other ^d	143	20.0 (16.73)	
<i>Education</i>			<i>P</i> <0.0001
Cannot read/write	136	25.9 (18.78)	
Without any degree	187	24.5 (18.11)	
Less than primary school	338	22.3 (18.69)	
Primary school/similar	1,092	18.0 (14.98)	
Secondary school/similar	1,782	14.6 (13.25)	
University/similar	855	11.5 (11.25)	
Other ^e	73	15.1 (12.37)	
<i>Profession</i>			<i>P</i> <0.0001
Managers/professionals/assistant professionals	1,217	12.7 (12.10)	
Clerical support/sale workers	1,214	14.3 (13.55)	
Skilled agricultural/forestry/fishery workers	707	18.3 (15.20)	
Assemblers/elementary occupations	570	20.5 (17.21)	
Housewife/husband	656	20.7 (16.08)	
Armed forces	45	12.7 (17.38)	
<i>Financial support</i>			<i>P</i> <0.0001
Work	2,939	15.2 (13.71)	
Work pension	542	10.8 (11.65)	
Social/sick-leave/other pension benefits ^f	243	27.2 (19.22)	
Spouse/partner income	627	21.1 (16.22)	
Other ^g	110	16.6 (14.85)	
<i>Still working (paid work)</i>			<i>P</i> <0.0001
Yes	3,518	16.8 (14.87)	
No	751	11.8 (12.29)	
<i>Financial strain</i>			<i>P</i> <0.0001
Yes	1,605	12.1 (12.20)	
No	2,857	18.5 (15.54)	
<i>Smoking</i>			<i>P</i> =0.0017
Yes	3,927	16.4 (14.83)	
No	536	14.6 (14.19)	
<i>Drinking</i>			<i>P</i> <0.0001
Yes	1,598	20.0 (16.55)	
No	2,866	14.0 (13.14)	

^a=GBB-24, 0-96; ^b=e.g. daughter; ^c=e.g. daughter; ^d=e.g. housing for elderly; ^e=e.g. art school; ^f=e.g. sick pension; ^g=e.g. own capital.

Table 4.2. Correlations ^b between somatic complaints, household size, BMI, health variables (e.g. depressive symptoms) and social support.

Variables	Somatic complaints ^a
<i>Household size</i> ^d	-0.0429 * ^c
<i>BMI</i> ^e	0.1483 *
<i>Health care use</i> ^f	0.2717 *
<i>Depressive symptoms</i> ^g	0.4620 *
<i>Anxiety symptoms</i> ^g	0.4673 *
<i>Social support</i> ^h	-0.2180 *

^a=GBB-24, 0-96; ^b=Spearman correlation; ^c=correlation coefficients;

^d=number of people in the household; ^e=Body mass index;

^f=number of health care contacts; ^g=HADS, 0-21; ^h=MSPSS, 12-84; * $P < 0.05$.

Table 4.3. Somatic complaints by abuse type and injury.

Variables	Somatic complaints ^a		<i>P</i> -values
	<i>n</i>	Mean (s.d.)	
<i>Psychological</i> ^b			$P < 0.0001$
No	3,584	15.2 (14.05)	
Yes	883	20.4 (16.78)	
<i>Physical</i> ^c			$P < 0.0001$
No	4,350	16.0 (14.56)	
Yes	117	22.5 (19.82)	
<i>Sexual</i> ^d			$P < 0.0001$
No	4,436	16.1 (14.62)	
Yes	31	34.4 (21.92)	
<i>Financial</i> ^e			$P < 0.0001$
No	4,292	16.0 (14.62)	
Yes	175	20.7 (17.45)	
<i>Injury</i> ^f			$P < 0.0001$
No	4,433	16.2 (14.75)	
Yes	34	25.3 (13.99)	

^a=GBB-24, 0-96; ^b=e.g. undermined or belittled what you do; ^c=e.g. kicked you;

^d=e.g. touched you in a sexual way against your will;

^e= e.g. tried to make you give money, possessions or property;

^f=e.g. you passed out from being hit on the head.

Table 4.4. Multivariate linear regression analysis, un-standardized betas, β ; standard error, (SE), of the associations between demographic/socio-economics, life-style, household size, health variables (e.g. depressive symptoms), social support, abuse and somatic complaints.

Independent variables	Somatic complaints β (SE)
<i>Country</i> ^b	
Greece	-0.64 (0.81)
Italy	-0.95 (0.73)
Lithuania	4.13 (0.77)***
Portugal	3.88 (0.71)***
Spain	1.04 (0.87)
Sweden	-2.45 (0.70)***
Germany ⁺	
<i>Age groups</i> ^b	
65–69 years	0.43 (0.52)
70–74 years	0.31 (0.57)
75–79 years	2.90 (0.62)***
80–84 years	2.76 (0.70)***
60–64 ⁺	
<i>Sex</i> ^b	
Male	-2.88 (0.42)***
Female ⁺	
<i>Marital status</i> ^b	
Married/Cohabitant	2.02 (1.34)
Divorced/separated	0.95 (0.95)
Widow/er	1.81 (0.85)*
Single ⁺	
<i>Migrant background</i> ^b	
Yes	-0.81 (0.78)
No ⁺	
<i>Living situation</i> ^b	
Spouse/partner	-1.30 (1.25)
Spouse/partner/other ^d	-1.24 (1.40)
Other ^e	-0.68 (0.8)
Alone ⁺	
<i>Habitation</i> ^b	
Rental	0.16 (0.48)
Other ^f	2.14 (1.05)*
Own ⁺	

Table 4.4. Continued.

Independent variables	Somatic complaints ^a β (SE)
<i>Education</i> ^b	
Without any degree	0.21 (1.57)
Less primary school	0.57 (1.43)
Primary school/similar	-0.06 (1.37)
Secondary school/similar	-1.67 (1.39)
University /similar	-2.09 (1.48)
Other ^g	-0.41 (1.99)
Cannot read nor write ⁺	
<i>Profession</i> ^b	
Clerical support/sale workers	-0.30 (0.57)
Skilled agricultural/forestry/fishery workers	0.97 (0.67)
Assemblers/elementary occupations	0.70 (0.73)
Housewife/husband	-1.17 (0.91)
Armed forces	1.43 (1.67)
Managers/professionals/assistant professionals ⁺	
<i>Financial support</i> ^b	
Working	0.42 (0.86)
Social/sick-leave/other pension benefits ^h	7.09 (0.83)***
Spouse/partner income	0.51 (0.76)
Other ⁱ	-0.11 (1.18)
Work pension ⁺	
<i>Still working (paid work)</i> ^b	
Yes	-1.03 (0.74)
No ⁺	
<i>Financial strain</i> ^b	
Yes	0.51 (0.41)
No ⁺	
<i>Smoking</i> ^b	
Yes	0.09 (0.55)
No ⁺	
<i>Drinking</i> ^b	
Yes	-0.30 (0.42)
No ⁺	
<i>Household size</i> ^{c,j}	
BMI ^{c,k}	-0.11 (0.22)
Health care use ^{c,l}	0.26 (0.04)***
Depressive symptoms ^{c,m}	10.41 (0.84)***
Anxiety symptoms ^{c,m}	4.42 (0.44)***
Social support ^{c,n}	5.73 (0.40)***
Psychological abuse ^{b,o}	-0.35 (0.17)*
Yes	2.73 (0.46)***
No ⁺	

Table 4.4. Continued.

Independent variables	Somatic complaints ^a β (SE)
<i>Physical abuse</i> ^{b, p}	
Yes	-0.67 (1.21)
No ⁺	
<i>Sexual abuse</i> ^{b, q}	
Yes	7.82 (2.33)**
No ⁺	
<i>Financial abuse</i> ^{b, r}	
Yes	-0.51 (0.92)
No ⁺	
<i>Injury</i> ^{b, s}	
Yes	7.37 (2)***
No ⁺	

⁺=Baseline; ^a=GGB-24, 0-96; ^b=categorical variables; ^c=continuous variables;

^d=e.g. daughter; ^e=e.g. daughter; ^f=e.g. housing for elderly people; ^g=e.g. art school;

^h=e.g. sick pension; ⁱ=e.g. own capital; ^j=number of people in the household;

^k=body mass index; ^l=number of health care visits; ^m=HADS, 0-21; ⁿ=MSPSS, 12-84;

^o=e.g. undermined or belittled what you do; ^p=e.g. kicked you; ^q=e.g. touched you in a sexual way against your will; ^r= e.g. tried to make you give money, possessions or property;

^s=e.g. you passed out from being hit on the head.

* $P < 0.05$; ** $P < 0.01$; *** $P < 0.0001$.

3.6. Quality of life

3.6.1. Demographics/socio-economics, life-style

As shown in Table 5.1, elderly from Germany, Spain and Sweden experienced greater quality of life (QOL) than those from Greece, Italy, Lithuania and Portugal.

The younger groups (60-64, 65-69 years) experienced higher QOL than the older (70-74, 75-79, 80-84 years).

Male, married/cohabitant, migrant and high educated participants experienced greater QOL than counterparts. In addition, elderly who were managers/professionals/assistant professionals and in the armed forces and lived with spouses/partners and spouses/partners/others scored high in QOL. Simi-

lar findings were found among elderly who still working, had financial support by work, reported no financial strain and had their own habitation. Finally, elderly who did not smoke experienced higher QOL than smokers, whereas the opposite was observed concerning the use of alcohol. There were no other significant differences.

3.6.2. Household, BMI, health, social support

As shown in Table 5.2, household size was positively correlated with quality of life (QOL), suggesting that elderly who lived in large households experienced greater QOL than those who lived in small households/alone.

BMI, depressive, anxiety and somatic symptoms were negatively correlated with QOL, indicating that the higher the scores on these variables, the lower the experienced QOL. Social support was positively correlated with QOL, suggesting that the higher the scores on this variable, the greater the experienced QOL. No significant correlation was found between QOL and health care use.

3.6.3. Quality of life by abuse, injury

As shown in Table 5.3, elderly exposed to psychological and physical abuse, and injuries experienced lower QOL than non-exposed. There were no significant differences concerning sexual and financial abuse.

3.6.4. Factors associated with quality of life

As shown in Table 5.4, being from Greece, Italy, Lithuania, Portugal, Spain and Sweden was associated with decreased QOL, and this was particularly evident for Greece. Similarly, having financial support by social/sickness/other pension benefits and spouses/partners income, being financially strained, scoring high in depressive, anxiety and somatic symptoms, and being exposed to psychological abuse were associated with decreased QOL. Increased

QOL was associated with being younger (65–69 years) and in the armed forces, having no educational degree, using alcohol and scoring high in social support.

3.6.5. Tables

Table 5.1. Quality of life by demographic/socio-economic and life-style variables.

Variables	Quality of Life ^a		P-values
	n	Mean (s.d.)	
<i>Country</i>			<i>P</i> <0.0001
Germany	536	77.8 (12.27)	
Greece	571	54.4 (11.92)	
Italy	570	69.4 (12.51)	
Lithuania	630	61.7 (11.47)	
Portugal	585	66.1 (13.04)	
Spain	634	71.8 (16.58)	
Sweden	622	72.4 (12.33)	
<i>Age groups</i>			<i>P</i> <0.0001
60–64	1,051	69.7 (14.05)	
65–69	1,027	69.5 (14.24)	
70–74	878	66.7 (14.98)	
75–79	682	66.0 (14.93)	
80–84	510	63.2 (15.539)	
<i>Sex</i>			<i>P</i> <0.0001
Female	2,364	66.4 (15.00)	
Male	1,784	69.5 (14.27)	
<i>Marital Status</i>			<i>P</i> <0.0001
Single	248	66.3 (15.15)	
Married/Cohabitant	2,716	70.1 (13.81)	
Divorced/Separated	321	64.6 (15.00)	
Widow/er	863	61.5 (15.47)	
<i>Migrant background</i>			<i>P</i> =0.0296
Yes	214	69.3 (14.83)	
No	3,918	67.6 (14.11)	
<i>Living situation</i>			<i>P</i> <0.0001
Alone	985	64.0 (15.15)	
Spouse/partner	2,062	70.7 (13.66)	
Spouse/partner/other ^b	663	68.6 (13.95)	
Other ^c	423	60.3 (15.67)	

Table 5.1. Continued.

Variables	Quality of Life ^a		P-values
	n	Mean (s.d.)	
<i>Habitation</i>			<i>P</i> =0.0009
Own	3,160	68.2 (14.41)	
Rental	855	66.0 (15.56)	
Other ^d	132	65.0 (17.61)	
<i>Education</i>			<i>P</i> <0.0001
Cannot read/write	130	61.2 (17.92)	
Without any degree	180	67.3 (17.98)	
Less than primary school	313	62.4 (16.00)	
Primary school/similar	1,023	65.1 (14.57)	
Secondary school/similar	1,628	68.2 (13.61)	
University/similar	811	72.9 (13.66)	
Other ^e	62	69.8 (13.52)	
<i>Profession</i>			<i>P</i> <0.0001
Managers/professionals/assistant professionals	1,145	71.7 (13.81)	
Clerical support/sale workers	1,108	69.4 (13.91)	
Skilled agricultural/forestry/fishery workers	647	66.2 (14.27)	
Assemblers/elementary occupations	546	62.3 (15.26)	
Housewife/husband	607	62.9 (15.23)	
Armed forces	41	74.4 (14.93)	
<i>Financial support</i>			<i>P</i> <0.0001
Work	515	72.0 (13.62)	
Work pension	2,725	68.3 (14.21)	
Social/sick-leave/other pension benefits ^f	226	59.6 (16.93)	
Spouse/partner income	578	64.1 (15.51)	
Other ^g	99	67.2 (14.27)	
<i>Still working (paid work)</i>			<i>P</i> <0.0001
Yes	711	72.1 (13.51)	
No	3,244	66.6 (14.79)	
<i>Financial strain</i>			<i>P</i> <0.0001
Yes	2,654	64.8 (13.63)	
No	1,490	72.9 (14.60)	
<i>Smoking</i>			<i>P</i> <0.0001
Yes	499	65.9 (14.52)	
No	3,646	67.9 (14.80)	
<i>Drinking</i>			<i>P</i> <0.0001
Yes	2,649	70.3 (13.35)	
No	1,497	63.1 (15.93)	

^a=WHOQOL-OLD, 0-100; ^b=e.g. daughter; ^c= e.g. daughter;
^d=e.g. housing for elderly; ^e=e.g. art school; ^f=e.g. sick pension; ^g=e.g. own capital.

Table 5.2. Correlations ^b between quality of life, household size, BMI, health variables (e.g. depressive symptoms) and social support.

Variables	Quality of Life ^a
<i>Household size</i> ^d	0.0666* ^c
<i>BMI</i> ^c	-0.05826*
<i>Health care use</i> ^f	-0.0038
<i>Physical complaints</i> ^g	-0.4172*
<i>Depressive symptoms</i> ^h	-0.6718*
<i>Anxiety symptoms</i> ^h	-0.4859*
<i>Social support</i> ⁱ	0.3535*

^a=WHOQOL-OLD, 0-100; ^b=Spearman correlation; ^c=correlation coefficients;

^d=number of persons in the household; ^e=body mass index;

^f=number of health care contacts; ^g=GBB-24, 0-96; ^h=HADS, 0-21; ⁱ=MSPSS, 12-84;

* $P < 0.05$.

Table 5.3. Quality of life by abuse type and injury.

Variables	Quality of Life ^a		P-values
	n	Mean (s.d.)	
<i>Psychological</i> ^b			$P < 0.0001$
Yes	835	64.4 (15.12)	
No	3,313	68.5 (14.59)	
<i>Physical</i> ^c			$P = 0.0022$
Yes	111	61.6 (18.88)	
No	4,037	67.8 (16.42)	
<i>Sexual</i> ^d			$P = 0.0691$
Yes	31	62.1 (19.10)	
No	4,117	67.7 (14.74)	
<i>Financial</i> ^e			$P = 0.7327$
Yes	171	62.5 (34.06)	
No	3,986	67.7 (14.60)	
<i>Injury</i> ^f			$P < 0.0001$
Yes	29	55.0 (17.29)	
No	4,119	67.7 (14.73)	

^a=WHOQOL-OLD, 0-100; ^b=e.g. undermined or belittled what you do; ^c=e.g. kicked you;

^d=e.g. touched you in a sexual way against your will; ^e=e.g. tried to make you give money,

possessions or property; ^f=e.g. you passed out from being hit on the head.

Table 5.4. Multivariate linear regression analysis, un-standardized betas, β ; standard error, (SE),

of the associations between demographic-socio-economics, life-style, household size, health variables (e.g. depressive symptoms), social support, abuse and quality of life.

Independent variables	Quality of Life ^a β (SE)
<i>Country</i> ^b	
Greece	-17.74 (0.90)***
Italy	-7.20 (0.81)***
Lithuania	-9.19 (0.84)***
Portugal	-6.45 (0.80)***
Spain	-2.01 (0.94)*
Sweden	-6.48 (0.77)***
Germany ⁺	
<i>Age groups</i> ^b	
65–69 years	1.33 (0.57)*
70–74 years	0.76 (0.62)
75–79 years	-0.52 (0.68)
80–84 years	-1.22 (0.75)
60–64 ⁺	
<i>Sex</i> ^b	
Male	-0.71 (0.46)
Female ⁺	
<i>Marital status</i> ^b	
Married/Cohabitant	-0.70 (1.47)
Divorced/Separated	-1.38 (1.03)
Widow/er	0.38 (0.86)
Single ⁺	
<i>Migrant background</i> ^b	
Yes	-0.08 (0.9)
No ⁺	
<i>Living situation</i> ^b	
Spouse/partner	1.88 (1.38)
Spouse/partner/other ^d	0.70 (0.51)
Other ^e	-1.12 (1.12)
Alone ⁺	
<i>Habitation</i> ^b	
Rental	-0.97 (1.50)
Other ^f	-1.70 (0.83)
Own ⁺	

Table 5.4. Continued.

Independent variables	Quality of Life ^a β (SE)
<i>Education</i> ^b	
Without any degree	4.43 (1.70)
Less than primary school	2.10 (1.55)
Primary school/similar	1.84 (1.48)
Secondary school/similar	1.86 (1.51)
University/similar	2.73 (1.61)
Other ^g	1.70 (2.16)**
Cannot read/write ⁺	
<i>Profession</i> ^b	
Clerical support/sale workers	0.24 (0.61)
Skilled agricultural/forestry/fishery workers	0.12 (0.72)
Assemblers/elementary occupations	-0.50 (0.78)
Housewife/husband	-1.07 (0.99)
Armed forces	4.94 (1.81)**
Managers, professionals/associated professionals ⁺	
<i>Financial support</i> ^b	
Work	1.16 (0.93)
Social/sick-leave/other pension benefits ^h	-2.83 (0.89)**
Spouse/partner income	2.47 (0.85)**
Other ⁱ	1.65 (1.28)
Work pension ⁺	
<i>Still working (paid work)</i> ^b	
Yes	0.95 (0.80)
No ⁺	
<i>Financial strain</i> ^b	
Yes	-1.36 (0.44)**
No ⁺	
<i>Smoking</i> ^b	
Yes	0.15 (0.60)
No ⁺	
<i>Drinking</i> ^b	
Yes	1.24 (0.45)**
No ⁺	
<i>Household size</i> ^{c,j}	
BMI ^{c,k}	0.02 (0.05)
Health care use ^{c,l}	0.35 (0.20)
Somatic complaints ^{c,m}	0.64 (0.92)
Depression ^{c,n}	-3.00 (0.41)***
Anxiety ^{c,n}	-8.88 (0.49)***
Social support ^{c,o}	-3.14 (0.45)***
	2.44 (0.18)***

Table 5.4. Continued.

Independent variables	Quality of Life ^a β (SE)
<i>Psychological abuse</i> ^{b, p}	
Yes	-1.55 (0.20)**
No ⁺	
<i>Physical abuse</i> ^{b, q}	
Yes	0.23 (1.24)
No ⁺	
<i>Sexual abuse</i> ^{b, r}	
Yes	-0.11 (2.39)
No ⁺	
<i>Financial abuse</i> ^{b, s}	
Yes	1.90 (1.01)
No ⁺	
<i>Injury</i> ^{b, t}	
Yes	3.95 (2.20)
No ⁺	

⁺=comparison categories; ^a=WHOQOL-OLD, 0-100; ^b=categorical variables; ^c=continuous variables; ^d=e.g. daughter; ^e=e.g. daughter; ^f=e.g. housing for elderly people; ^g=e.g. art school; ^h=e.g. sick pension; ⁱ=e.g. own capital; ^j=number of persons in the household; ^k=Body Mass Index; ^l=number of health care visits; ^m=GGB-24, 0-96; ⁿ=HADS, 0-21; ^o=MSPSS, 12-84; ^p=e.g. undermined or belittled what you do; ^q=e.g. kicked you; ^r=e.g. touched you in a sexual way against your will; ^s= e.g. tried to make you give money, possessions or property; ^t=e.g. you passed out from being hit on the head.
 * $P < 0.05$; ** $P < 0.01$; *** $P < 0.0001$.

4. DISCUSSION

4.1. Prevalence

As shown in Table 1.1, across countries, the most common form of abuse was psychological followed by financial and physical. Sexual abuse and injuries occurred less often. More men than women reported psychological, physical and financial abuse, and the opposite in sexual abuse and injuries.

On the country level, psychological abuse occurred more often in Sweden and Germany. Physical abuse occurred more often in Sweden and Lithuania. Sexual abuse occurred more often in Greece and Portugal. Financial abuse occurred more often in Portugal and Spain. Injuries occurred more often in Lithuania and Greece.

More men than women were exposed to psychological abuse in Sweden, Germany and Italy, and the opposite in the other countries. More men than women were exposed to physical abuse in Sweden, Germany and Portugal, and the opposite in other countries. More women than men were exposed to sexual abuse in all countries, except Spain. Men were more exposed to financial abuse than women in all countries, except in Greece and Spain. Women were more exposed to injuries than men in all countries, except in Spain and Sweden.

Finally, it was estimated that about 345,000 older persons (60–84 years) had experienced abuse (including injuries) during the past 12 months in the urban centres assessed.

Our data on abuse and injuries are difficult to compare with that of other studies.^{15–19, 21–68} Most studies differ from ours in methods (e.g. abuse definition), do not compare the scope and extent of abuse between countries, and sexual abuse and injuries are seldom assessed. Notwithstanding, except for psychological abuse, our abuse rates tend to be lower and in some cases much lower.^{30–64}

There are however some studies that share similarities with our study (general population).^{15–19,21–29,65–68} In general, our psychological abuse figures are higher, and physical and financial abuse lower. No major differences were found regarding sexual abuse. A comparison of injuries was not possible as they tend not to be assessed in these studies. Our findings concerning gender differences in abuse are similar to some studies and contrary to others. Discrepancies between our findings and those of other studies are in most cases related to dissimilarities concerning, for instance, the age of the samples and reporting willingness, and only two studies addressed the prevalence of abuse in various countries, of which one pertains to women.

Our abuse figures are higher than those reported in the UK study,⁶⁷ which involve abuse in England, Wales, Scotland and North Ireland, and is the study most similar to ours in terms of for instance comparison between countries with both genders. For example, while the UK study⁶⁷ reports that 0.7% of their participants were exposed to psychological/physical/sexual abuse, the figures in our study amount to 11.4%. Part of the explanation for the discrepancies may be differences in the age range of the participants in both studies. In our study, the participants are aged 60–84 years and in the UK study⁶⁷ 66 years and over. Usually abuse tends to be higher in the younger than in the older age groups. Differences in the willingness to disclose abuse may also explain part of the differences. Finally, our study collects information about 52 abuse items, whereas the UK study⁶⁷ only assessed 32 items, leaving important facets of abuse not addressed.

Thus, although there are differences between our data and those of other studies, the general picture indicates that elderly abuse is relatively common, not least psychological abuse.

As shown in the bivariate analyses (Tables 1.2 and 1.3), the experience of abuse and injuries differed in relation to a range of demographic/socio-economic (e.g. age), life-style (e.g. alcohol use) and other variables (e.g. social support).

Following multivariate regressions (Table 1.4) showed however that only being from Greece, Italy, Portugal and Spain, aged 75–79/80–84 years, married/cohabitant, male and supported financially by spouses/partners income, not experiencing financial strain, living in rented housing, using alcohol, tobacco and health care, scoring high in somatic and anxiety symptoms, and low in social support were associated with abuse and injuries.

Being from Portugal and Greece was associated with increased “risk” for financial and sexual abuse, respectively. Being from Greece, Italy, Portugal and Spain was associated with decreased “risk” for psychological abuse, and being from Italy and Portugal with decreased “risk” for physical abuse.

Apart from financial and sexual abuse, elderly in Germany were at increased “risk” for psychological and physical abuse compared with elderly in the other countries. Part of the explanation may be that in Germany elderly were more willing to disclose such experiences than elderly in the other countries. It is also possible that perceptions of what is psychological and physical abuse differed between the countries. The psychological and physical acts may have been more experienced as reflecting abuse in Germany than in the other countries. Another explanation may be differences in elderly empowerment. It is possible that elderly in Germany felt less empowered than those in the other countries and, thus, were at higher “risk” for abuse. The reverse may be also possible. It is also plausible that our findings reflect that Germany is a more violent society. Some support for this was presented in a recent survey regarding the burden of crime in 18 EU countries (10 common crimes), although crime surveys differ in various ways (e.g. methodological) from surveys as ours. According to this survey, Germany on average has a higher prevalence of crime than Greece, Italy, Portugal and Spain.¹¹¹

In contrast, elderly in Greece were at higher “risk” for sexual abuse. These findings partly corroborate observations from the abovementioned crime survey,¹¹¹ which reported a higher prevalence of sexual incidents, particularly against women, in Greece than in Italy, Portugal and Spain. Contrary to this survey, we did not find an elevated prevalence of sexual abuse in Germany and Sweden. Part of the explanation may be that in our sample, the elderly in Greece experienced the described sexual behaviours as more unacceptable and reflecting abuse than the elderly in the other countries. It is also possible that the elderly in Greece had a higher readiness to report the sexual incidents than elderly in the other countries. In any case, measuring sexual abuse is extremely difficult, and therefore, our findings need to be interpreted with great caution. The more so in view that sexual abuse was not that common, that there were no major differences between women and men, and that in one case (Spain) men complained more of sexual abuse than women.

Also in contrast, elderly in Portugal were at higher “risk” for financial abuse. This apparently at odds with the abovementioned crime survey,¹¹¹ which

indicated that Portugal has one of the lowest crime levels in Europe, although financial abuse per se was not addressed, but theft and burglary. A possible explanation could be the economic situation in Portugal. Portugal is faring worse economically than many other countries in Europe (e.g. Germany, Spain) and this may have lead to an increased likelihood for financial abuse, particularly against older persons who in general are more defenceless and vulnerable than younger.^{112–115}

Our findings on the relation between country and abuse differ from those of a recent study conducted in the UK about mistreatment of older persons in England, North Ireland, Scotland and Wales.⁶⁷ This study which bears similarities with ours (e.g. general population) report lower rates of total abuse, but also by country. Additionally, to the extent that there were differences between countries concerning the prevalence of abuse, they pertained to men in Scotland being more exposed to neglect. As suggested previously the discrepancies may be due to methodological differences (e.g. number of abuse items addressed).

Elderly aged 80–84 years were at higher “risk” for financial abuse than counterparts, whereas elderly aged 75–79/80–84 years were at lower “risk” for psychological abuse. The findings concerning financial abuse may be related to effects of reporting among older cohorts and victim/perpetrator factors. It is possible that the oldest participants were more willing to disclose the financial abuse than the youngest. Another explanation could be that the elderly aged 80–84 years compared with the younger counterparts had more physical and/or mental impairments and less social support, and thus were at greater “risk” for financial abuse. It is also plausible that the perpetrators were financial dependent on the elderly (e.g. daily living) and/or had problems (e.g. substance abuse), and thus more “prone” to abuse the elderly financially. Data from other studies, although not always pertaining to financial abuse, indicate that the abovementioned factors pertaining to victims^{16,41,52,65,66,70–81,93,103} and perpetrators^{39,40,42,43,61,77,83–91} increase the “risk” for abuse. However, the relationship between increased age and abuse is not consistent across all studies.^{18,43,52} Concerning the relationship between the decreased “risk” for psychological abuse and the age groups 75–79/80–84 years, one could speculate that the older people are the more immune they became against psychological abuse.

Being male was associated with increased “risk” for financial abuse. This may be due to that men compared to women were more financially empowered and more likely to manage financial matters, and thus run a higher “risk” for financial abused. It is also possible that women under-reported financial abuse as they may have been more tolerant of financial abusive acts or interpreted such acts as the provision of financial help to their adult children or grandchildren, a finding found in elderly Latino Americans.¹¹⁶ Further, factors related to the victims (social isolation, physical and/or mental impairments)^{16,41,52,65,66,70–81,93,103} and perpetrators (social isolation, financial dependency, psychopathology)^{39,40–43,61,77,83–91} may have increased the elderly’s vulnerability to financial abuse, although these studies do not always involve financial abuse. Interestingly, the data regarding gender differences in abuse among elderly are inconsistent, with some authors reporting more abuse (any kind) against women^{18,43,52} and others no differences.¹⁹

Being married/cohabitant was associated with increased “risk” for physical abuse. As indicated earlier most physical abuse was perpetrated by spouses/partners. Thus, our findings may be reflective of this situation. Several plausible explanations are possible such as a prolonged, poor marriage relationship at various levels (e.g. expression of emotions), the actual abuse is part of a long-term, ongoing abusive relationship, burden of care-giving, physical and/or mental impairments among the victims, and psychopathology and economic dependency among perpetrators. For instance, if a spouse/partner is the caregiver, this could lead to high discontentment and stress, particularly if the care-giving spouse/partner has her/his own physical and/or mental problems to grapple with. Over time this would become too much to bear and result in abuse. In any case, the perpetrators of physical abuse are often spouses/partners and several of the abovementioned factors have been associated with an increased “risk” for abuse, including physical.^{19,22,39,40–43,52,61,65–67,68,77–81,83–91}

Living in rented housing was associated with increased “risk” for psychological abuse. Living in rented housing may be an indicator of poor socio-economic conditions, which could be a ground for the occurrence of abuse. It may also reflect living arrangements, with overcrowded conditions and a lack of privacy, which could predispose to abuse. This issue, as far as we know, has not been addressed in relation to elderly abuse. However, data from various populations, including elderly, suggest that poor socio-economic conditions and economic dependency, distress or deprivation seem to be related to various forms of abuse.^{1,18,25,66,117–121}

Elderly financially supported by spouses/partners income were at higher “risk” for sexual abuse than counterparts. Slightly over 14% of the elderly reported living on their spouses/partners income. This suggesting that they did not had personal income (e.g. pension benefits) or that their income was very low. These elderly may have been thus dependent on spouses/partners in a range of areas such as living expenses, accommodation and health care. Data from various populations, including elderly, indicate that poor socio-economic conditions and economic dependency, distress or deprivation seem to be related to various forms of abuse.^{1,18,25,66,117–121} In our case, one could speculate that the economic empowered spouses/partners “enforced” their sexual “will” on their companions which were not able to “resist” it due to their economic dependency, e.g. they could have been afraid of losing the economic support.

Elderly not experiencing financial strain were at lower “risk” for psychological abuse. In this context, not experiencing financial strain implies no financial difficulties and/or being economic empowered, at least subjectively experienced. Findings, not necessarily involving elderly and men, indicate that economic empowerment/autonomy has “protective” impacts on abuse, although in some contexts it may be a “risk” factor.^{1,122} Thus, among elderly, not experiencing financial strain may have a protective impact on abuse.

Elderly who had paid work were at increased “risk” for sexual abuse, suggesting that the abuse may have occurred at the workplace and/or in conjunction with work activities. The rates of sexual abuse at work among elder workers are not well known. Most studies concern sexual harassment and focus on women’s experiences, but apparently men are also exposed to such acts.¹²³ A survey with 21,703 workers in 15 EU Member States reported that 2% had been exposed to sexual harassment.¹²⁴ A review concerning sexual harassment in 11 European countries in various work branches and national samples reported rates of harassment against women between 2–90% depending on the branch and country, whereas for men the rates varied between 1–51%.¹²⁵ Several models have been put forward to explain sexually abusive acts at the workplace. For example, organizational attributes (e.g. anonymity) seem to influence not only the presence of workplace sexually abusive acts, but also the specific form in which they manifest.¹²⁶

Using alcohol was associated with increased “risk” for psychological abuse and tobacco use with a lower “risk” for injuries. With regard to alco-

hol, a range of studies have found a relation between use of alcohol and abuse (both perpetrators and victims), largely in youth and domestic abuse, but the relation is not linear. Indeed, the relation between alcohol and abuse is complex and moderated by several factors such as the amount of alcohol used, previous experiences of abuse and psychological abnormalities.¹²⁷ However, there is a lack of studies concerning the relation between older people, alcohol use and abuse, and the shortage is evident concerning alcohol use by older people who are abused. Nevertheless, a study suggests that impaired judgement and memory due to harmful alcohol use by older persons may leave them more vulnerable to abuse, but it also possible that older persons use alcohol to cope with abuse.¹²⁸ Another study suggests that care-givers may encourage older persons to drink in order to abuse them.¹²⁹

Tobacco use was related to a decreased “risk” for injuries. As far as we know the association between older persons, tobacco use and abuse has not been addressed previously. Some studies have found a relation between smoking and abuse, but in a reverse way. Abused men and women in the US naval services were found to be more nicotine dependent than non-abused,¹³⁰ and domestic violence (mainly against women) has been associated with higher odds for smoking.¹³¹ Thus, our findings are at odds with these studies, although they do not involve elderly. An explanation could be that we are facing a random association.

Using frequently health care was associated with increased “risk” for psychological and sexual abuse. Although it is possible that frequent users of health care, suggesting physical/psychological weaknesses and dependency, may be more vulnerable to abuse than counterparts, a more likely explanation is a reverse pattern. That is, psychological and sexual abuse leads to various health problems, which in turn result in a frequent use of health care. In any case, studies have shown that there is an association between a frequent use of health care and abuse.^{132,133}

Scoring high in anxiety symptoms was associated with increased “risk” for all forms of abuse and injuries. A plausible explanation could be that anxiety with its cognitive, physical and emotional symptoms, and the needs and demands of the anxious elderly may have lead to a great deal of discontentment, anger, burden and strain among those around her/him, which with time could have resulted in abuse. A reverse pattern is also possible. That is, abuse and injuries could have led to anxiety. As shown elsewhere (see sec-

tion on anxiety) this may be the case for psychological abuse. Thus, our results seem to suggest that anxiety is a “precursor” of abuse and injuries, and a “cause” and “effect” of psychological abuse. In any case, elderly abuse seems to co-exist with distress/anxiety.⁹⁸

Scoring high in somatic complaints was associated with increased “risk” for psychological and physical abuse, and injuries. Somatic complaints are very common, not least among elderly.¹³⁴⁻¹⁴⁵ Additionally, somatic discomforts (e.g. dizziness, pains) are found in people with multiple health problems, including anxiety and depression, suggesting that physical and mental disorders are intertwined.¹⁴⁶⁻¹⁵⁵

Our findings indicate that the elderly may suffer from multiple health problems (see the other health sections). In any case, the presence of somatic symptoms may have led to great discontentment, anger, stress and burden among those around the “diseased” elderly, but also dependency on them. This over time could have resulted in abuse and injuries. Data show that dependency due to physical and cognitive deficiencies^{52,77-80} and depression/trauma/poor health^{65,66,81} are “risk” factors for abuse. Further, abuse seems to co-exist with depression/anxiety/poor health.^{40,49,52,92-98,100,101} A reverse pattern is also possible. The abuse, in particular physical abuse and injuries, may have led to the experience of somatic symptoms. The more so as, for example, some of the somatic symptoms (body aches) may be directly related to lesions caused by the sustained injuries (e.g. had a sprain, bruise, or small cut because of a fight). Thus, somatic symptoms may be both a “source” and an “effect” of abuse, depending on the type (see section on somatic complaints).

Low scores in social support were associated with increased “risk” for psychological and financial abuse, and injuries. This apparently in line with other studies, which observed an association between lack of/reduced social support and increased “risk” for mistreatment.^{16,41,66,70-77,93,103} However, a reverse pattern is also possible, i.e. abuse led to lack of/reduced social support.

Interestingly, lack of social support (e.g. not feeling cared for, valued and being part of a network of relationships) impacts negatively on the well-being of older persons. The negative impact may be particularly evident if the elderly are dependent on others for daily activities, companionship, and care for their physical/mental health. Research indicates that lack of social support leads in the long-term to increases in disease susceptibility and risk of mortality across many leading causes of death among older persons,¹⁵⁶⁻¹⁵⁹ and

longer hospital or nursing home stays.^{160–162} One could speculate on a complex causal pattern going from lack of social support to decreased physical/mental health, which in turn, over time would result in increased likelihood for abuse due to dependency on care-givers and care-giver burdens. Findings indicate that persons who are dependent on care-givers because of physical/mental deficiencies and report depression/trauma/poor health are at increased abuse “risk”.^{52,65,66, 77–81}

4.2. Perpetrators

As shown in Table 1.5, across countries, spouses/partners accounted for most of the psychological and physical abuse, and injuries (37.8%). Our figures are both lower and higher than those presented in other studies.^{19,39,67,68} This may pertain to, for instance, differences in reporting rates and the number of elderly people living alone.

A constellation of significant others, i.e. offspring/grandchildren, other relatives and friends/acquaintances/neighbours, accounted for 20.6% of the psychological abuse and 11.3% of the physical abuse, and 9.2% of the injuries. These figures tend to be lower than those observed in other studies.^{67,68} This may be related to, for example, differences in reporting rates and number of elderly with offspring/grandchildren.

“Others” (e.g. care staff) accounted for 21% of the psychological abuse and 31.7% of the physical abuse, and 27.6% of the injuries. These figures are both higher and lower than those shown in other studies,^{19,67,68} which may be due, for instance, differences in reporting rates and the magnitude of contacts with “others”.

A different pattern was observed concerning financial abuse where the main perpetrators were “others” (61.7%). These figures are at odds with those of other studies where financial mistreatment is mainly perpetrated by partners/spouses and/or family members.^{67,68} An explanation could be, for instance, that many of the victims live alone and are widows/er, and to the extent that financial abuse occurs it would be mainly perpetrated by other individuals that have a relation with the victims, i.e. “others” (e.g. care staff).

Differences between studies in reporting rates may also be part of the explanation.

Most sexual abuse was perpetrated by friends/acquaintances/neighbours (30.3%), “others” (27.3%) and spouses/partners (24.2%). Our figures are discordant with other studies regarding the rates, particularly in relation to the role of friends/acquaintances/neighbours and “others” in such abuse. Indeed, in general, sexual abuse tends to be mainly perpetrated by spouses/partners.^{67,68} An explanation could be, for instance, that many of the victims live alone and are widows/er, and to the extent that sexual abuse occurs it would be mainly perpetrated by other individuals that are near and have a relation with the victims, i.e. friends/acquaintances/neighbours and “others”. Differences between studies in reporting rates may also be part of the explanation.

The reasons that conducted the present constellation of perpetrators in abusing the elderly were not addressed here. Notwithstanding, our results indicate that having a spouse/partner is closely related to abuse, a finding also found by others.^{19,39,67,68} One could speculate, for instance, that the abuse was due to a prolonged, poor marriage relationship at various levels (e.g. expression of emotions) and burden of care-giving, and was part of a long-term, ongoing abusive relationship. As to the other perpetrators, financial dependency on the victims (e.g. accommodation)^{39,77,83–87} and psychopathology (e.g. substance abuse)^{39,40,42,43,61,77,84,88–91} may have played a role. Finally, it is possible that characteristics among the victims, i.e. isolation/low social support,^{16,41,66,70–77,93,103} dependency due to physical/cognitive deficiencies^{52,77–80} and depression/trauma/poor health^{65,66,81} may have been pertinent to the abuse.

4.3. Depressive symptoms

As shown by the bivariate analyses (Tables 2.1–2.3), the experience of depressive symptoms differed in relation to a range of demographic/socio-economic (e.g. age), life-style (e.g. alcohol use), abuse (e.g. psychological) and other variables (e.g. social support).

A following multivariate regression (Table 2.4) showed however that only being from Greece, Italy, Lithuania, Portugal and Spain, having basic/

high educational levels, being financially strained, using alcohol, scoring high in somatic complaints and social support, and exposure to psychological abuse and injuries were associated with depressive symptoms.

Being from Greece, Italy, Lithuania and Portugal were associated with increased levels of depressive symptoms, and the opposite concerning Spain. Several studies have shown variation between countries in Europe concerning the presence of depressive symptoms, with young¹⁶³ and old persons¹⁶⁴ in Southern countries reporting the highest levels of symptoms. Differences between countries were further confirmed in the SHARE study,¹⁶⁵ with Spain, France, Italy and Greece, particularly Spain, reporting the highest depression levels and Austria, Germany and Sweden the lowest. However, these findings were not supported by the EURODEP study,¹⁶⁶ which did not found higher rates of depression in Southern countries. A probably reason for the discrepancy could be that the EURODEP study¹⁶⁶ did not involve national representative samples and the age of the participants was 65 years and over, whereas the SHARE study¹⁶⁵ involved national representative samples and the age of the participants was 50 years and over. Comparisons with other studies are limited by the age ranges and the outcomes. For instance, in the case of the ESEMeD study^{167,168} the outcome was not depression, but the clinical diagnosis of depressive disorder. In any case, our findings, except for Spain, are in accord with observations from studies using national representative samples such as the SHARE study (increased rates of depression in Southern countries).¹⁶⁵ As to Spain, our findings seem to corroborate the observations of the EURODEP study (lower levels of depression in Spain among the elder population compared to Germany, the UK and Italy).¹⁶⁶ Whether differences in the prevalence of depression symptoms between countries as exemplified by our findings and those of others reflect for instance culture-specific patho-protective and pathogenic factors, discrepancies in the perception of what is depression, assessment modes, instruments used and depression thresholds or a combination of these factors remains an issue. Interestingly, depression thresholds seem to vary between cultural settings and may account for country associated differences in prevalence.^{169,170}

Having basic and high educational levels were associated with decreased levels of depressive symptoms. Propper et al¹⁷¹ found that more qualified individuals are significantly less at risk of bad mental health outcomes. Other researchers have observed that high levels of education have a protective

effect in reducing the probability for depression.^{172–174} Similarly, it has been shown that less educated persons suffer more from long-term stress and score higher in depression than better educated.^{168,175,176} Thus, our findings that better education levels are related to decreased levels of depressive symptoms seem to be in line with the available literature. Several explanations are possible. For instance, persons who are better educated may experience greater self-efficacy and self-esteem, which could have a moderator effect on depression. Better education could also have influenced life circumstances though its impact on, for example, access to good labour positions and income, and satisfying and stable relationships, which may have a buffer effect on depression. Additionally, better educated persons may be more informed about various risk factors for depression, more likely to seek treatment and more likely to follow the treatment.^{174,177–179} Contrary to the abovementioned findings, less education was not related to increased “risk” for depression. One could speculate that the less educated as their counterparts were also informed about various risk factors for depression, more likely to seek treatment and more likely to follow the treatment.

Financial strain was associated with increased levels of depressive symptoms (see also the other sections). Many elderly in Europe report that they do not have enough to live on. Older pensioners tend to have lower benefits than younger cohorts¹⁸⁰ and thus there are declining levels of income in the older age groups, and a close relationship between poverty rates and older ages.¹⁸¹ Indeed, the rates of poverty among elderly people tend to be greater than in the population as a whole, at least in some Southern European countries and in Eastern Europe. During the past years, the situation (e.g. financial) in Europe has deteriorated, with for instance increases in unemployment and living costs, and cuts/stagnation of benefits/services.^{112–115} This has had a negative impact on the living conditions of several groups, not least elderly. Overall, these circumstances may have led to the experience of financial strain, and, in turn to depressive symptoms. In any case, though not necessarily pertaining to elderly, various studies have shown an association between financial strain/income inequality and poor mental/physical health and decreased QOL.^{182–193}

Alcohol use was associated with decreased levels of depressive symptoms. There is a significant difference between alcohol use and misuse. While alcohol misuse is related to various health problems among older persons

(including depression) and poor QOL,^{194–200} this may not be the case for the moderate use of alcohol. Research indicates that moderate consumption may be associated with better cognitive functioning, health status (e.g. cardiovascular) and QOL.^{199,201–207} The mechanisms of alcohol's protective effect on health are likely to be mainly biological, but social aspects may also play a role. In view of these later studies, our findings may reflect that alcohol has also a beneficial effect concerning depression.

Scoring high in somatic complaints was associated with increased levels of depressive symptoms (see also the other sections). The connection between these problems have been observed in various studies.^{147,149,150,152,153,155} Somatic symptoms such as fatigue, chest pain, abdominal discomfort and dizziness are included in the diagnostic criteria of depression, which could explain the high rates of somatic complaints in patients with this condition. Further, persons suffering from depression may have lower thresholds for experiencing somatic symptoms, resulting in a higher degree of symptom reporting in this condition.^{147,148} Moreover, persons with somatic symptoms often worry about their complaints, their cause and nature, and may experience feelings of hopelessness and helplessness, and this could over time lead to depressive symptoms.²⁰⁸ Additionally, patients with severe major depression have more somatic symptoms than patients with mild depression, indicating that the level of depression is closely linked to the reporting of somatic complaints.¹⁵¹ In any case, our findings are in accordance with the above-mentioned studies showing a connection between somatic complaints and depressive symptoms.

Scoring high in social support was associated with decreased levels in depressive symptoms (see also the other sections). Social support concerns for instance to feel cared for, valued and be part of a network of relationships.^{209–215} Social support is a significant predictor of the physical/mental health of people of all ages, not least older persons, and its importance may be particularly evident in elderly who rely on family, friends, or organizations to assist them with daily activities, provide companionship, and care for their physical/mental health. Research indicates that the presence of social support and social integration may provide physical/mental health as well as survival benefits to elderly by reinforcing for instance coping and recovery when ill or via biological mechanisms that protect against illness.^{216–226} Anyway, our findings indicate that the presence of social support is protective against depressive symptoms among elderly and that the creation of appro-

priated social support is likely to improve and enhance their psychological well-being.

Exposure to psychological abuse and injuries were associated with increased levels of depressive symptoms (see also the other sections). Psychological abuse and injuries may have impacted more profoundly and durably on the victims, not least as the perpetrators were mainly significant persons. The victims may have experienced these abusive behaviours as particularly intrusive in their cognitions, emotions etc. For instance, psychological abuse involving harsh and insulting words, threats, silent “treatments” and being ignored could have led to reduced self-esteem as well as feelings of hopelessness and helplessness, and thus decreased mood. A reverse pattern is also possible. That is, depression with its cognitive, physical and emotional characteristics, and the needs and demands of the depressed elderly may have represented a source of high discontentment, irritation, burden and stress among those around her/him, which over time could have led to abuse. This is however unlikely, at least in our data. Indeed, as shown elsewhere (see section of abuse prevalence), depressive symptoms were not an important “predictor” of abuse and injuries. Thus, our findings indicate that depression may be more an “effect” than a “cause” of abuse. In any case, other studies have found a connection between depression and abuse, but the issue of causality remains unclear.^{40,49,52,92–97}

4.4. Anxiety symptoms

As shown by the bivariate analyses (Tables 3.1–3.3), the experience of anxiety symptoms differed in relation to a range of demographic/socio-economic (e.g. age), life-style (e.g. alcohol use), abuse (e.g. psychological) and other variables (e.g. social support).

A following multivariate regression (Table 3.4) showed however that only being from Greece, Lithuania and Spain, male, divorced/separated and financially strained, BMI, scoring high in somatic complaints and social support, and exposure to psychological abuse were associated with anxiety symptoms.

Being from Greece and Lithuania were associated with increased levels of anxiety symptoms, and the opposite concerning Spain. Anxiety disorders are relatively common world-wide, including Europe.^{163,168,183,227–229} A recent review of 41 studies from 17 countries²²⁸ showed that 1-year and life-time prevalence rates for total anxiety disorders were 10.6% and 16.6%, but rates for individual disorders varied widely. Women had generally higher prevalence rates across all anxiety disorder categories than men, although the magnitude of this difference varied. When all anxiety disorders were taken together, life-time prevalence increased throughout ages 18–64 years. Rates varied also between countries for total anxiety and specific disorders. Overall, there is great variation concerning the findings between the abovementioned studies. For example, some studies observed that the prevalence of anxiety increases with age and others that it decreases. Similarly, some studies found difference between countries and others not. Additionally, there is variation in the age of the samples included. Our findings are both in line and contrary to those described above. Thus, whether differences in the prevalence of anxiety between countries as exemplified by our findings and those of others reflect for instance culture-specific patho-protective and pathogenic factors, discrepancies in the perception what is anxiety, assessment modes, instruments used and anxiety thresholds or a combination of these factors remains an issue.

Being male was associated with decreased levels of anxiety symptoms. This confirming one of the most robust findings in psychiatric epidemiology, i.e. anxiety is more common among women than men in general and elderly.^{183,227–229} Several explanations for this gender difference have been offered. For instance, the differential exposure hypothesis claims that the higher prevalence of health problems among women may reflect their reduced access to the material and social conditions of life that foster health, whereas the vulnerability hypothesis argues that women report higher levels of health problems because they react differently than men to the social determinants of health.^{230–234}

Being divorced/separated was associated with decreased levels of anxiety symptoms. This at odds with many studies showing that divorce/separation is associated with increased mental and physical illness.^{235–245} It is unclear why our findings depart from the well-established relationship between divorce/separation and decreased health. One could speculate that in our

participant's divorce/separation, which could be due to a marital/cohabitant relationship characterized by problems, was a relief. It is also possible that the divorce/separation did not lead to fewer material resources, more stress, more health risk behaviours and less social support than married/cohabitant persons. Some of the divorced/separated elderly are likely to have sustained abuse. By divorcing/separating they may have eliminated the abuse and thus a source of health problems, including anxiety.

Financial strain was associated with increased levels of anxiety symptoms (see also the other sections). Many elderly in Europe complain of that they do not have enough to live on. Older pensioners tend to have lower benefits than younger counterparts¹⁸⁰ and therefore there are declining levels of income in the older age groups, and a close relationship between poverty rates and older ages.¹⁸¹ Indeed, the rates of poverty among elderly people tend to be greater than in the population as a whole, at least in some Southern European countries and in Eastern Europe. During the past years, the situation (e.g. financial) in Europe has deteriorated, with for example increases in unemployment and living costs, and cuts/stagnation of benefits/services.^{112–115} This has had a negative impact on the living conditions of several groups, not least elderly. Overall, these circumstances may have resulted in the experience of financial strain, and, in turn to the experience of anxiety. In any case, although not necessarily involving elderly, various studies have shown a linkage between financial strain/problems/income inequality and poor mental/physical health and decreased quality of life.^{182–193}

Low BMI was associated with increased levels of anxiety symptoms. While obesity and overweight has been associated with a range of somatic and mental ailments such as hypertension, diabetes mellitus, depression and anxiety, and decreased quality of life in various populations and ages,^{246–256} the relation between low weight/underweight and health has not attracted great attention, particularly in relation to mental health. Further, to the extension that the association between low weight/underweight and health is addressed, findings are inconsistent. For instance, Bruffaerts et al²⁴⁷ did not find a significant association between underweight and mental disorders, whereas Yan et al²⁵⁷ observed that underweight was related to impairment in physical, social, and mental well-being.* In any case, our findings seem to be in line with those of Yan et al.²⁵⁷ The causes of the association between low BMI and anxiety are likely to be complex and were not addressed here, but

* See also <http://www.ktl.fi/monica/public/objectives.html>

low BMI may have lead to several negative alterations (e.g. bodily) and in turn to anxiety (see abovementioned references). A reverse pattern is also possible. That is, anxiety led to changes in eating behaviours and in turn to low BMI.

Scoring high in somatic complaints was associated with increased levels of anxiety symptoms (see also the other sections). As indicated by others there is a linkage not only between somatic and depression symptoms, but also anxiety symptoms.^{147,149,150,152,153,155} Somatic symptoms (e.g. fatigue, chest pain, abdominal discomfort, dizziness) are included in the diagnostic criteria of several anxiety disorders, which could account for the high prevalence of somatic complaints in patients with these conditions. Moreover, persons with anxiety disorders may have lower thresholds for experiencing somatic symptoms, resulting in a greater degree of symptom reporting in these conditions.^{147,148} Additionally, persons with somatic symptoms are often concerned about their complaints, their source and nature, and may experience feelings of hopelessness and helplessness, and this could over time lead to anxiety symptoms. In any case, our findings are in line with the abovementioned studies showing a connection between somatic and anxiety symptoms.

Scoring high in social support was associated with decreased levels of anxiety symptoms (see also the other sections). Social support involves for example to feel cared for, valued and be part of a network of relationships.²⁰⁹⁻²¹⁵ Social support is a significant predictor of the physical/mental health of older persons, and its importance may be particularly salient in elderly who depend on family, friends, or organizations to assist them with daily activities, provide companionship, and care for their physical/mental health. Research indicates that the availability of social support and social integration may provide physical/mental health as well as survival benefits to elderly by reinforcing for instance coping and recovery when ill or via biological mechanisms that protect against illness.²¹⁶⁻²²⁶ In any case, our results indicate that the availability of social support is protective against anxiety symptoms among elderly and that the development of appropriated social support is likely to improve and enhance their psychological well-being.

Exposure to psychological abuse was associated with increased levels of anxiety symptoms (see also the other sections). Few studies have addressed the relationship between elder abuse and anxiety, but it has been observed that elder abuse co-exist with distress/anxiety symptoms.⁹⁸ Psychological abuse

may have had a profound and durable effect on the victims, not least as it was perpetrated mainly by significant others. The abusive acts may have been experienced as particularly intrusive in their cognitions, emotions etc. Psychological abuse involving harsh and insulting words, threats, silent “treatments” and being ignored could have resulted in among other things decreased self-esteem and feelings of hopeless/helplessness, and, thus anxiety. Interestingly, the analyses concerning the “predictors” of abuse and injuries indicate that anxiety is an important explanatory factor. Thus, our data suggest that, anxiety may be more a “cause” than an “effect” of abuse and injuries, except for psychological abuse where it may be both.

4.5. Somatic complaints

As shown by the bivariate analyses (Tables 4.1–4.3), the experience of somatic complaints differed in relation to a range of demographic/socio-economic (e.g. age), life-style (e.g. alcohol use), abuse (e.g. psychological) and other variables (e.g. social support).

A following multivariate regression (Table 4.4) showed however that only being from Lithuania, Portugal and Sweden, aged 75–79 and 80–84 years, male and widow/er, living in other housing (e.g. housing for elderly persons), having financial support by social/sickness/other pension benefits, BMI, use of health care, scoring high in depressive and anxiety symptoms, scoring low in social support, and exposure to psychological/sexual abuse and injuries were associated with somatic complaints.

Being from Lithuania and Portugal were associated with increased levels of somatic complaints, and the opposite concerning Sweden. These findings could reflect that Lithuania and Portugal are faring worse than Sweden in factors such as socio-economic conditions and access to health care, which may impact negatively on the well-being of their older citizens. The poor health of Lithuanian elders could partly be explained by the enormous changes that occurred since 1990 (from being a part of the Soviet Union to independence and free market economy). The transition led to economic, social, cultural and psychological problems. During periods of economic instability,

older persons are at a distinct disadvantage in competing with others for scarce resources, jobs and incomes, and tend to be less flexible in adapting to the situation. Consequences for the living standard and health may be therefore more severe.¹⁴⁰ Additionally, factors such as poverty, exclusion, inadequate health care services, constraints in accessing health care services or lack of health care services, or a combination of these may explain differences between Lithuania, Portugal and Sweden, and this may be particularly evident in Portugal.^{112,114}

Our findings on the association between being aged 75–79/80–84 years and increased levels of somatic complaints are generally in line with previous studies reporting that older people tend to express more health complaints than younger.^{134–145} This association may also reflect for instance health inequalities due to a background of differences in occupational status, with people of lower occupational status reporting more complaints.²⁵⁸ However, the relation between older age and increased levels of somatic complaints is not consistent across all studies. Some researchers^{259,260} have found that older people evaluate their health status positively, even sometimes better than younger ones. An explanation could be that older people compared to younger have a long experience in dealing with life events and thus are able to cope better with diseases.^{261,262} Furthermore, older people have different values and expectations concerning health because of higher prevalence rates of health problems in age peers. To older people, disease may be more a normative age-related change than a health problem.²⁶¹

Being male was associated with decreased levels of somatic complaints. Somatic symptoms are very common in various samples, and in general, women report more bodily distress, and more numerous, intense and frequent somatic symptoms than men.^{134–142} A number of explanations for the gender difference, with varying degrees of support, have been advanced. These include innate differences in somatic and visceral perception; differences in symptom labelling, description and reporting; the socialization process, which leads to differences in the readiness to acknowledge and disclose discomfort; a sex differential in the incidence of abuse and violence; sex differences in the prevalence of anxiety and depressive disorders; and gender bias in research and in clinical practice. For example, symptom reporting may depend on differences in socialization and social roles, i.e. men are socialized to be more stoical and to resist assuming sick role more than women, whereas women

are encouraged to acknowledge distress.¹³⁴ In any case, our findings are in line with the abovementioned research indicating that men complain less of somatic symptoms than women.

Being widow/er was associated with increased levels of somatic complaints, which is in line with studies indicating that widowhood may lead to declines in health and increases in mortality risk for surviving spouses/partners.²⁶³⁻²⁷¹ The opposite has been found for married individuals. That is, married individuals feel healthier, have fewer illnesses, are less depressed and live longer than the unmarried.²⁷²⁻²⁷⁷

Several mechanisms have been proposed to explain the association between widowhood and poor health/increases in mortality risk for surviving spouses/partners, e.g. the loss of social support, the stress of bereavement and adjustments to managing a household alone.^{278,279} Further, marriage may be beneficial for health and well-being as spouses/partners tend to encourage each other to engage in healthy behaviors (e.g. regular medical check-ups) and to avoid behaviours that may compromise health (e.g. excessive alcohol). By losing a spouse/partner, the social control and regulation of health disappears. Thus, the negative health effects of widowhood may partly pertain to the loss of a primary source of health regulation.²⁸⁰

Having financial support by social/sickness/other pension benefits was associated with increased levels of somatic complaints. These findings stress the importance of personal socio-economic status in relation to health. Men and women from higher social groups tend to use a larger number of factors when assessing their health, including aspects such as being fit and active, absence of illness, happiness and feeling in control.²⁸¹ Further, poverty is associated with dependence on social/sickness and pension benefits or income derived from a spouse's/partner's income. There is a link between income and health showing that within countries, poorer health is associated with lower income.^{200,282} On the other hand, the abovementioned association may reflect that people with poor health, including somatic symptoms, are more likely to be on special types of benefits (e.g. social), which are usually a sign of economic problems.²⁸³⁻²⁸⁵

Living in other housing (e.g. housing for elderly persons) was associated with increased levels of somatic complaints. This connection may reflect that elderly living in such homes tend to be frailer than those living in ordinary housing, which seems to be in accord with previous studies.²⁸⁶⁻²⁸⁸ On the other

hand, living in other housing could also, at least partly, be a sign of economic problems, which have been associated with various psychological and somatic problems, and poor quality of life.^{283–285}

High BMI was associated with increased levels of somatic complaints. This in line with a range of studies* showing that overweight is associated with various health problems (e.g. respiratory difficulties, depression) among adults, including older adults.^{246–256} Interestingly, the risks of overweight among older adults may have been underestimated due to confounders such as survival effect, competing mortalities and relatively shortened life expectancy in older persons.²⁵⁶ The causes behind the relation between high BMI and poor health are complex and were not addressed here, but high BMI usually leads to negative alterations (e.g. bodily), which in turn result in ill-health (see abovementioned references).

A frequent use of health care was associated with increased levels of somatic complaints. This in accord with studies showing that older people with somatic symptoms often use health care, particularly those with palpitations, fatigue, breathing difficulties, pain, tension and gastrointestinal symptoms.^{139,142,289}

High scores in depressive and anxiety symptoms were associated with increased levels of somatic complaints (see also the other sections). Similar associations have been reported by others.^{147,149,150,152,153,155} According to Haug, Mykletun and Dahl,¹⁴⁷ somatic symptoms such as fatigue, chest pain, abdominal discomfort and dizziness are included in the diagnostic criteria of depression and anxiety disorders. This may explain the high rates of somatic complaints in patients with these conditions. As stated by Katon et al,¹⁴⁸ persons with anxiety or depression disorders may have lower thresholds for experiencing somatic symptoms, leading to a higher degree of symptom reporting in these conditions. Depression and anxiety disorders may also be secondary phenomena to somatic symptoms. Persons with somatic symptoms often worry about their complaints, their cause and nature, and experience symptoms of anxiety. Likewise, being bothered by somatic symptoms over time can lead to feelings of hopelessness and helplessness, and consequently to depressive symptoms.²⁰⁸ Moreover, patients with severe major depression report more somatic symptoms than patients with mild depression, suggesting that the level of depression is intimately linked to the reporting of somatic symptoms.¹⁵¹

* See also <http://www.ktl.fi/monica/public/objectives.html>

Low scores in social support were associated with increased levels of somatic complaints (see also the other sections). Social support enables a person to for instance feel cared for, valued and be part of a network of relationships.²⁰⁹⁻²¹⁵ Social support is an important factor in predicting the physical/mental health of older persons, and its importance may be paramount for elderly who rely on family, friends, or organizations to assist them with daily activities, provide companionship, and care for their physical/mental health. Research indicates that experiencing social support and social integration may provide physical/mental health and survival benefits to older persons by strengthening for instance coping and recovery when ill or via biological mechanisms that protect against illness.²¹⁶⁻²²⁶

Inversely, social isolation/lack of social support, which may be potent stressors affecting biological and behavioural mediators such as increasing allostatic overload or unhealthy behaviours lead,^{225,290,291} in the long-term, to increases in disease susceptibility and risk of mortality across many leading causes of death among older persons,¹⁵⁶⁻¹⁵⁹ and longer hospital or nursing home stays.¹⁶⁰⁻¹⁶² It is also possible with a reverse pattern. That is, health problems may lead to social isolation.^{292,293} In any case, our findings are in accord with abovementioned research indicating that “deficiencies” in social support have a negative impact on health.

Exposure to psychological and sexual abuse, and injuries were associated with increased levels of somatic complaints. Although many studies have discussed the physical indicators of elder abuse and abuse-related mortality,⁹⁹ few have actually presented concrete data on these issues. In fact, only four studies seem to have concretely addressed these issues in some form.^{70,100-102} Two of the studies^{70,102} pertain essentially to mortality risk in relation to neglect and abuse, whereas the other two^{100,101} involve neglect and abuse in relation to poor health whose specificity is rather unclear. Thus, our findings may be the first to clearly demonstrate that abuse is associated with somatic symptoms (e.g. body aches).

Some of the somatic symptoms (body aches) could be directly related to lesions caused by the sustained injuries (e.g. had a sprain, bruise, or small cut because of a fight) and sexual abuse (e.g. forced intercourse), whereas other symptoms (e.g. nausea, dizziness) could be more associated with upsetting thoughts, memories and feelings that remained of the abusive acts independently of the type. In any case, psychological and sexual abuse and injuries

may have had profound and durable effects for the victims, not least as the abuses tended to be perpetrated mainly by significant persons. The abusive may have been experienced as particularly intrusive in their cognitions, emotions etc. For instance, psychological abuse involving harsh and insulting words, threats, silent “treatments” and being ignored could have resulted in for instance reduced self-esteem and feelings of hopeless/helplessness and, thus, increased levels of somatic complaints. On the other hand, as suggested earlier depressive and distress/anxiety symptoms are connected with somatic symptoms. Thus, we may be looking at the effects of abuse on other dimensions of depression and distress/anxiety, and data has shown a co-existence between elder abuse, depression and distress/anxiety.^{40,49,52,92-98} Finally, it is also possible with a reverse pattern. That is, somatic symptoms may be a “cause” of the abuse and injuries rather than an “effect”. The regressions of the prevalence of abuse seem to indicate such relationship for psychological and physical abuse, and injuries. Thus, somatic complaints may be both a “cause” and “effect” of some forms of abuse and injuries.

4.6. Quality of life

As shown by the bivariate analyses (Tables 5.1–5.3), the experience of QOL differed in relation to a range of demographic/socio-economic (e.g. age), life-style (e.g. alcohol use), abuse (e.g. psychological) and other variables (e.g. social support).

A following multivariate regression (Table 5.4) showed that only being from Greece, Italy, Lithuania, Portugal, Spain and Sweden, younger (65–69 years), in the armed forces and financially strained, having no educational degree, having financial support by social/sickness/other pension benefits and spouses/partners income, using alcohol, scoring high social support and in depressive, anxiety and somatic symptoms, and exposure to psychological abuse were associated with QOL.

Being from Greece, Italy, Lithuania, Portugal, Spain and Sweden was associated with decreased QOL. The first European QOL survey in 2003 indicated that in Spain, Portugal and Greece, the average incomes of older

people were lower than for all other younger age groups.²⁹⁴ The European system of social indicators 2001 database²⁹⁵ reported that older people in Greece and Portugal have a lower QOL than other countries. Greek and Portuguese elderly were also less satisfied with their local medical services, below 50% of the level of satisfaction, than elderly in other countries. The decreased QOL reported by elderly in Italy, Lithuania and Sweden fits in well with the research findings from the two European Foundation studies, which noted that the quality of public services is generally important to life satisfaction and has a greater impact on the subjective well-being of people experiencing deprivation.^{294,296}

Being younger (65–69 years) was associated with increased QOL. This may reflect a number of factors such as the generally better health and less dependency of the younger (65–69 years) cohort compared with older cohorts; the tendency for them to have higher incomes as they retired more recently; and a better education which affected their life time earnings capacity and, often, final pensions.²⁹⁷

Having no educational degree was associated with increased QOL. In general, a lower level of education is linked with lower levels of health and life satisfaction because of for instance a close association between education, higher incomes and better jobs.²⁹⁸ Bowles, Durlauf and Hoff²⁹⁹ points out that all research evidence indicates the outstanding importance of education for poverty and social inclusion, higher levels being related to less poverty and social exclusion, and a greater QOL.^{300,301} The results from **ABUEL** suggest a more complex picture. One interpretation may be related to differences in retirement expectations. People with a degree and who retire from a career may experience a greater loss of status and QOL than those who have other skills that they can continue using in retirement, or who are happy to no longer have to undertake routine, hard, insecure and less interesting work.

Being in the armed forces was associated with increased QOL. This may reflect the fact that those in the armed forces retire on a secure pension relatively early in their life span and have time, in most cases, to restructure their lives and find another occupation, paid or unpaid. Retirement is not associated with older age, but years of service and involves retirement only from a specific job and not the labour market. Those without prior mental health problems appear to do better in retirement than those retiring later.³⁰² This would appear to suggest that the role of social expectations and adequate

incomes in retirement, as well as the probability of having been physically active during their military careers, will have a positive impact on their well being in later life.

Financial support by spouses/partners income and social/sickness/other pension benefits were associated with decreased QOL. These findings stress the importance of personal socio-economic status in relation to health. Men and women from higher social groups tend to use a larger number of factors when assessing their health, including aspects such as being fit and active, absence of illness, happiness and feeling in control.²⁸¹ Further, poverty is associated with dependence on social/sickness, pension benefits or income derived from a spouses/partners income. There is a link between income and health which affects QOL,^{282,200} showing that within countries, poorer health is associated with lower income. On the other hand, the abovementioned association may reflect that people with poor health, which affects QOL, are more likely to be on special types of benefits (e.g. social) usually a sign of economic problems.²⁸³⁻²⁸⁵

Financial strain was associated with decreased QOL. As mentioned in the depression and anxiety sections, many elderly in Europe report that they do not have enough to live on. Older pensioners tend to have lower benefits than younger cohorts¹⁸⁰ and thus there are declining levels of income in the older age groups, and a close relationship between poverty rates and older ages.¹⁸¹ Indeed, the rates of poverty among elderly people tend to be greater than in the population as a whole, at least in some Southern European countries and in Eastern Europe. During the past years, the situation (e.g. financial) in Europe has deteriorated, with for instance increases in unemployment and living costs, and cuts/stagnation of benefits/services.¹¹²⁻¹¹⁵ This has had a negative impact on the living conditions of several groups, not least elderly. Overall, these circumstances may have led to the experience of financial strain, and, in turn to decreased QOL. In any case, although not necessarily pertaining to elderly, various studies have shown an association between financial strain/problems/income inequality and poor mental/physical health and decreased QOL.¹⁸²⁻¹⁹³

Alcohol use was associated with increased QOL (see also the other sections). There is a substantive difference between alcohol use and abuse. While alcohol abuse is related to health problems, and, in turn to lower QOL,¹⁹⁴⁻²⁰⁰ this may not be the case for the general use of alcohol. Indeed, research indi-

cates that moderate consumption is associated with better cognitive functioning and health status (e.g. cardio-vascular), and thus QOL.^{199,201–207} The mechanisms of alcohol's protective effect on health are likely to be mainly biological, but social aspects may also play a role. This would have an influence on QOL. In view of these later studies, our findings may reflect that alcohol has also a beneficial effect concerning QOL.

Scoring high in somatic complaints was associated with decreased QOL. Somatic symptoms are very common among elderly, which impacts negatively on QOL, and our findings may reflect this association.^{134–143,145} On the other hand, somatic symptoms may reflect for instance health inequalities due to a background of differences in occupational status, with people of lower occupational status reporting more complaints, and this impact on QOL.²⁵⁸ However, studies have shown^{259,260} that older people evaluate their health status positively, even sometimes better than younger ones. An explanation could be that older people compared to younger have a long experience in dealing with life events and thus are able to cope better with diseases.^{261,262} Furthermore, older people have different values and expectations concerning health because of higher prevalence rates of health problems in age peers. To older people, disease may be more a normative age-related change than a health problem.²⁶¹ Finally, as pointed out by Walker and Mollenkopf,²¹¹ the worsening physical health in older people does not necessarily correlate with their own subjective evaluations of their QOL.

Scoring high in depressive and anxiety symptoms was associated with decreased QOL. Depression and anxiety may have various aetiologies (e.g. genetic, social structural). An interesting structural explanation is provided by Wilkinson and Pickett²⁰⁰ who found an association between scoring high in BMI, depression, anxiety and somatic symptoms and higher levels of relative socio-economic inequality, and decreased QOL. Depression stands out also as a critical factor in negative QOL in a UK survey,⁶⁷ which even points to a link between depression and abuse. Moreover, according to Walker and Mollenkopf,²¹¹ one could argue that perceived environmental stress and depression are indicative of low QOL, which also is in accordance with the **ABUEL** findings. In any case, depression and anxiety, not least in seniors, may produce alterations in for instance their cognitions and emotions, restrict their social life and gradually reduce their independence, and this affects negatively QOL.^{303–306}

Scoring high in social support was associated with increased QOL (see also the other sections). Studies concerning QOL^{209–213,215} have underlined the importance of such factors as intimate social relations (spouses/partners), the density of social networks, good communities, social activities, the availability of various social networks for emotional and practical support (indicators of social support), for a positive QOL/well-being among older persons. For older persons, four aspects of the social network may have a great importance. That is, the network structure and interaction (large, family/friends, frequent contact), social exchange (exchange of goods/services across generations), social engagement (involvement in activities), and subjective network perceptions (positive relationships).

Further, viewing QOL in terms of physical/mental health, the presence of social support and social integration may provide physical/mental health and survival benefits to older persons by strengthening for instance coping and recovery when ill or via biological mechanisms that protect against illness.^{216–226} In any case, our findings seem to be in line with the abovementioned studies showing a relation between social support and positive QOL/well-being.

Exposure to psychological abuse was associated with decreased QOL. An explanation could be that psychological abuse involving harsh and insulting words, threats, silent “treatments” and being ignored had a more profound and durable effects on the victims, not least as it was mainly perpetrated by significant persons. The abuse may have been experienced as particularly intrusive in their cognitions, emotions etc. For instance, it may have led to for instance feelings of hopelessness/helplessness and reduced self-esteem, and, thus decreased QOL. On the other hand, viewing QOL in relation to physical/mental health, various studies have shown a connection between elder abuse, depression, distress/anxiety and poor physical health, although in some cases the studies involve physical abuse/neglect.^{40,49,52,92–98,100,101} In any case, our findings are in line with studies showing that abuse decreases QOL.^{8,101}

5. SUMMARY, LIMITATIONS AND CONCLUSIONS

5.1. Summary

As shown by our results, although there were differences between countries, we are facing a relatively important number of people across countries with various abuse and injuries experiences, and in particular psychological abuse. There were no major differences in abuse and injuries between women and men, but their experiences differed depending on the country and type of abuse. Transforming our prevalences of abuse and injuries into the total population aged 60–84 years across the urban centres examined, a significant number of people experienced abuse and injuries during the past 12 months (about 350.000). The abuse and injuries were inflicted by various perpetrators, but significant others were at the centre of it. Additionally, many elderly were faring poorly physically, psychologically, socio-economically, and in terms of QOL. These problems tended to coincide, co-exist and be inter-correlated leading to significant strains and burdens to many elderly. Although, as suggested earlier, there were differences in several of the assessed areas among the participating countries, the communalities surpassed the differences.

5.2. Limitations

ABUEL has limitations that need to be acknowledged. First, due to its cross-sectional character the data collected do not allow to establish firm causal links, which would require another type of design (e.g. repeated-measures

design). Second, the samples (women/men) were recruited from urban centres and 7 European countries, and may not be representative for samples from non-urban areas, other countries in Europe and elsewhere (e.g. USA). Thus, the generalizability of the present findings cannot be guaranteed. On the other hand, our findings seem congruent with other research. Third, the accuracy of the data was solely dependent on the participants' subjective assessment of their situation. No objective assessment strategies were incorporated to corroborate their responses, e.g. hospital records of injuries. On the other hand, the used instruments have been shown capture the central facets of the studied factors in a valid and reliable way. Fourth, the attrition rate was high, which may have led to the "selection" of women/men with particular characteristics that diverged from the characteristics of men in general in terms of for example their abuse experiences. For example, we may have an over-representation of psychologically abused men and an under-representation of sexually abused men. However, there were no major differences (age and gender) between refusals and non-refusals nor did they differ from the general population in each participating country, and the total response rate is similar to some of the studies in the field. Despite these weaknesses, the present confirms observations from other studies and may provide new insights worth consideration when designing intervention and prevention measures for elder abuse.

5.3. Conclusions

5.3.1. Research

The knowledge about elder abuse in terms of prevalence, incidence, "risk" factors and effects has increased the past years, and the findings from **ABUEL** have provided further insights into these issues. However, more needs to be known about elder abuse and related factors to fully understand their complexity.

At the European level, further studies concerning the prevalence of elder abuse in the general population are necessary in view that several countries

still lack such data, at least confident data. Considering required financial and human resources, it is advantageous to conduct such studies across all the EU states, using the same type of methodology. Little is known at the European level concerning the prevalence of abuse against the oldest and frailest persons and related factors (e.g. health). This is urgently needed in view of the changes in demography. As suggested above such studies should be conducted across all EU states.

Knowledge about perpetrators, gender differences in perpetration and victimization, and the mutuality of abuse remains insufficient, not least in Europe. As abovementioned such studies should be conducted across all EU states.

Most data on elder abuse is cross-sectional, which do not provide firm information about causality. Therefore, to the extent possible, studies should apply strategies (e.g. longitudinal) allowing to drawing more firm causal conclusions.

Without comprehensive information about the extent of elder abuse, its “risk” factors and effects, their proper management may be a difficult task, if not impossible. Lack of confident and comprehensive data on elder abuse and related factors may be a serious obstacle to, for instance, develop efficient prevention and treatment approaches. Indeed, we may not be able to provide efficient prevention to elderly at “risk” of abuse and related illness, and treatment to elderly who have been subjected to abuse.

Considering the abovementioned, resources must be put at disposition of researchers and others to conduct this work. In this context, an all EU research centre on elder abuse would facilitate this work.

5.3.2. General policy making on elder abuse

Several factors may contribute to the development of evidence-based policies, research and practice strategies aimed at early detecting and preventing elder abuse, but also at intervening to support and care for the abused persons. Notwithstanding, a number of issues must be considered.

First, there is a need for a full nation-wide recognition of elder abuse, a standardised, operational definition of elder abuse and a tool to assess it for policy-makers, practitioners and researchers. **ABUEL** meets these needs by

providing confident data on abuse, and a workable operational definition of abuse and a tool to assess abuse.

Second, to successfully implement elder abuse prevention policies, the following must be taken into account: **(i)** Inequalities in education, employment, health, health care and income level, general and based on race, age, ethnicity or gender factors; **(ii)** Gender differences in “risk” factors and barriers involved in receiving adequate care or support; **(iii)** Social inclusion and social capital (social and family bonds) as protective factors; **(iv)** Variety in resilience and ability to cope, including broad socio-economic and social factors; **(v)** Cultural differences in the appreciation, recognition, setting and prevention strategies towards elder abuse; **(vi)** The importance of the dignity of individuals; and **(vii)** The large costs of interpersonal abuse. The data provided by **ABUEL** partly supports the importance of these factors, not least social support, for the prevention of abuse.

Third, no single response, intervention and professional category may be sufficient to tackle the complex issue of elder abuse. Therefore, a combination of approaches and professionals is required: **(i)** In addition to a public health approach, whose concern is to prevent health problems and to extend better care and safety to entire populations, individual approaches must be developed to tackle personal cases; and **(ii)** The complexity of abuse in terms of causes and effects requires drawing knowledge from and the collaboration of many disciplines such as medicine, epidemiology, sociology, psychology and criminology. This allows preventing and responding to abuse and its related long-term disability at various levels. The data provided by **ABUEL** regarding abuse, and its “risk” factors and “effects” points strongly to the complexity of abuse, and the need to tackle these issues at various levels.

5.3.3. Policy making on elder abuse at country level

Authorities in the different countries should: **(i)** Finance initiatives and projects; **(ii)** Increase awareness about elder abuse and “risk” factors, and how to detect and prevent it among the public, primary care professionals, social workers and police staff by awakening campaigns; **(iii)** Activate awareness raising campaigns to promote a positive image of ageing and combat age discrimination; **(iv)** Provide legislative and policy measures specific to elder

abuse; **(v)** Develop multi-disciplinary teams in services to look at the cases of abuse and to plan possible interventions, and coordinate the efforts; **(vi)** Improve cooperation between police, health and social services, volunteers and victim protection organisations; **(vii)** Identify and evaluate good national practices regarding the protection and promotion of the rights of older persons, including measures to prevent discrimination, abuse and neglect; **(viii)** Provide settings where abuse can be reported. Older people have difficulties in reporting an offence, especially if perpetrated by relatives and care-givers. Elders are reluctant to report abuse by relatives or care-givers because they fear reprisals, and are afraid of being institutionalized or abandoned. Elders may not report abuse also because they are ashamed and embarrassed, believe they are the cause of the problem or perceived it as something to be accepted and connected to the old age; **(ix)** Provide a national telephone help line. Confidential calls can help those who have been abused, witnessed abuse and are abusers; **(x)** Provide reporting systems for data on mortality and morbidity associated with abuse; **(xi)** Provide information and education about violence, through NGOs and social services, by publishing information leaflets, brochures, hosting congresses and meetings; and **(xii)** Expand training of staff across the police, and health and social care sectors for the identification of elder abuse risk factors, recognition of the signs of different forms of abuse and how to deal with abuse, by developing educational programmes, clear standards/guidelines and professional checklists. The data provided by **ABUEL** regarding abuse, and its “risk” factors and “effects” can be helpful for these tasks.

5.3.4. Policy making on elder abuse at European level

The European Union could take a number of actions to protect the dignity in old age and prevent elder abuse: **(i)** Use the European Social Fund to co-finance educational programmes about abuse aimed at police, and health and social services staff; **(ii)** Provide long-term financial support for clinical and basic research on abuse; **(iii)** Provide long-term support for abuse prevention and treatment measures; **(iv)** Raise the awareness about abuse through periodic information campaigns; **(v)** Provide specific EU legislation to prevent domestic elder abuse by adapting the existing legal framework and address-

ing the issue of rights of older persons on the international level; and (vi) Further expanding of the “mutual learning” as a platform, already in place, for the exchange of experience between Member States and for mutual learning at all levels of governance, and also by promoting trans-national multi-disciplinary networks of organisations working to prevent and combat abuse. The data provided by **ABUEL** regarding abuse, and its “risk” factors and “effects” can be helpful for these tasks.

5.3.5. Policy making on health, social support and elder abuse

Drawing from the **ABUEL** findings and literature, interventions aimed at preventing and treating elder abuse should consider the importance of health and social support factors. Ill-health is both a contributor factor to and an effect of abuse, whereas social support is an important abuse protective factor. Accordingly, in collaboration with formal and informal resources, programmes for improving the health and social support of older persons should be developed and implemented or further improved. These programmes would improve the situation of older persons and decrease their vulnerability to abuse.

6. REFERENCES

1. World Health Organization. (2002). *World report on violence and health*. Geneva: Author.
2. Baker, A.A. (1975). Granny-battering. *Modern Geriatrics*, 5, 20–24.
3. Burston, G.R. (1975). “Granny battering”. *British Medical Journal*, 3, 592.
4. Special Eurobarometer 272 (2007). *Health in the European Union*. European Commission.
5. WPP (2009). *World Population Prospects: The 2008 Revision*. Population Division of the Department of Economic and Social Affairs of the United Nations Secretariat. New York: United Nations.
6. Council of Europe (1992). *Violence Against the Elderly*. Strasbourg: Council of Europe.
7. What is elder abuse? (1995). *Action on Elder Abuse Bulletin*, 11 (May–June).
8. O’ Keeffe, M., et al. (2007). *UK study of abuse and neglect of older people: Prevalence survey report*. London: Department of health.
9. Straus, M.A., Hamby, S.L., BoneyMcCoy, S., & Sugarman, D.B. (1996). The revised Conflict Tactics Scales (CTS2) - Development and preliminary psychometric data. *Journal of Family Issues*, 17, 283-316.
10. Adelman, R., Siddiqui, H., & Foldi, N (1998). Approaches to Diagnosis and Treatment of Elder Abuse and Neglect. In M. Hersen & V.B. Van Hasselt (Eds.). *Handbook of Clinical Geropsychology*. New York: Plenum Publishing Company.
11. Carp, R.M. (2000). *Elder abuse in the family: an interdisciplinary model for research*. New York: Springer.
12. Fulmer, T.T., & O’ Malley, T.A. (1987). *Inadequate care of the elderly: A health care perspective on abuse and neglect*. New York: Springer.
13. Henderson, D., Buchanan, J.A., & Fisher, J.E. (2002). Violence and the elderly population: Issues for prevention. In P.A. Schewe (Ed.). *Preventing Violence in Relationships: Interventions Across the Life Span*. Washington, DC: US: American Psychological Association.
14. Schiamberg, L.B., & Gans, D. (1999). An ecological framework for contextual risk factors in elder abuse by adult children. *Journal of Elder Abuse & Neglect*, 11, 79–103.
15. Ogg, J., & Bennet, G. (1992). Elder Abuse in Britain. *British Medical Journal*, 305, 998-999.
16. Podkieks, E. (1992). National survey on abuse of the elderly in Canada. *Journal of Elder Abuse & Neglect*, 4, 5-58.
17. Kivelä, S.L., Kongas-Saviaro, P., Kesti, E., Pahkala, K., & Ljas, M.L. (1992). Abuse in old age: Epidemiological data from Finland. *Journal of Elder Abuse & Neglect*, 4, 1-18.
18. Comijs, H.C., Pot, A.M., Smit, J.H., Bouter, L.M., & Jonker, C. (1998). Elder abuse in the community: Prevalence and consequences. *Journal of the American Geriatrics Society*, 46, 885–888.

19. Pillemer, K., & Finkelhor, D. (1988). The prevalence of elder abuse: A random sample survey. *The Gerontologist*, 28, 51-57.
20. Cooper, C., Selwood, A.C., & Livingston, G. (2008). The prevalence of elder abuse and neglect: A systematic review. *Age and Ageing*, 37, 151-160.
21. Chokkanathan, S., & Lee, A.E. (2005). Elder mistreatment in urban India: a community-based study. *Journal of Elder Abuse & Neglect*, 17, 45-61.
22. Harris, S. (1996). For better or worse: spouse abuse grown old. *Journal of Elder Abuse & Neglect*, 8, 1-33.
23. Hirsch, R.D., & Brendebach, C. (1999). Violence against the aged within the family: results of studies by the "Bonner HsM (treating vs. mistreating) Study. *Journal of Gerontology and Geriatrics*, 32, 449-455.
24. Ockleford, E., Barnes-Holmes, Y., Morichelli, R., Morjaria, A., Scocchera, F., Furniss, F., et al. (2003). Mistreatment of older women in three European countries - Estimated prevalence and service responses. *Violence Against Women*, 9, 1453-1464.
25. Oh, J, Kim, HS, Martins, D, & Kim, H. (2006). A study of elder abuse in Korea. *International Journal of Nursing Studies*, 43, 203-214.
26. Tornstam, L. (1989). Abuse of the elderly in Denmark and Sweden: results from a population study. *Journal of Elder Abuse & Neglect*, 1, 35-44.
27. Wetzels, P., & Greve, W. (1996). Older people as victims of family violence. Results of a German victimization survey. *Zeitschrift für Gerontologie und Geriatrie*, 29, 191-200.
28. Yan, E.C., & Tang, C.S.K. (2001). Prevalence and psychological impact of Chinese elder abuse. *Journal of Interpersonal Violence*, 16, 1158-1174.
29. Yan, E.C., & Tang, C.S.K. (2004). Elder abuse by caregivers: A study of prevalence and risk factors in Hong Kong Chinese families. *Journal of Family Violence*, 19, 269-277.
30. Beach, S.R., Schulz, R., Williamson, G.M., Miller, L.S., Weine, M.F., & Lance, C.E. (2005). Risk factors for potentially harmful informal caregiver behavior. *Journal of the American Geriatrics Society*, 53, 255-261.
31. Buri, H., Daly, J.M., Hartz, A.J., & Jogerst, G.J. (2006). Factors associated with self-reported elder mistreatment in Iowa's frailest elders. *Research on Aging*, 28, 562-581.
32. Fulmer, T, Paveza, G, VandeWeerd, C, Fairchild, S, Guadagno, L, Bolton-Blatt, M, et al. (2005). Dyadic vulnerability/risk profiling for elder neglect. *The Gerontologist*, 45, 525-534.
33. Pittaway, E, Westhues, A. (1993). The prevalence of elder abuse and neglect of older adults who accessed health and social services in London, Ontario, Canada. *Journal of Elder Abuse & Neglect*, 5, 77-93.
34. Wang, J.J. (2005). Psychological abuse behavior exhibited by caregivers in the care of the elderly and correlated factors in long-term care facilities in Taiwan. *Journal Nurs Res*, 13, 271-280.
35. Risco, R.C., Paniagua, V., Jimenez, M., Poblador, C., Molina, M.L., & Buitrago, F. (2005). Prevalence and risk factors of suspicion abuse in elder population. *Medicina Clinica*, 125, 51-55.
36. Ruiz, S.A., Altet, T.J., Porta, M.N., et al. (2001). Domestic violence: prevalence of suspected ill treatment of the elderly. *Atención Primaria*, 27, 331-334.
37. Compton, S.A., Flanagan, P., & Gregg, W. (1997). Elder abuse in people with dementia in Northern Ireland: prevalence and predictors in cases referred to a psychiatry of old age service. *International Journal of Geriatric Psychiatry*, 12, 632-635.

38. Cooney, C., Howard, R., & Lawlor, R.B. (2006). Abuse of vulnerable people with dementia by their carers: can we identify those most at risk? *International Journal of Geriatric Psychiatry*, 21, 564-571.
39. Cooney, C., & Mortimer, A. (1995). Elder abuse and dementia: A pilot study. *International Journal of Social Psychiatry*, 4, 276-283.
40. Coyne, A.C., Reichman, W.E., & Berbig, L.J. (1993). The Relationship Between Dementia and Elder Abuse. *American Journal of Psychiatry*, 150, 643-646.
41. Grafström, M., Nordberg, A., & Winblad, B. (1993). Abuse Is in the Eye of the Beholder. *Scandinavian Journal of Social Medicine*, 21, 247-255.
42. Homer, A.C., & Gilleard, C. (1990). Abuse of Elderly People by their Carers. *British Medical Journal*, 301, 1359-1362.
43. Paveza, G.J., Cohen, D., Eisdorfer, C., Freels, S., Semla, T., Ashford, J.W. et al. (1992). Severe Family Violence and Alzheimer's Disease: Prevalence and Risk Factors. *The Gerontologist*, 32, 493-497.
44. Pillemer, K., & Suitor, J.J. (1992). Violence and Violent Feelings – What Causes Them Among Family Caregivers. *Journals of Gerontology*, 47, 165-172.
45. Pot, A.M., Dyck, R., Jonker, C., & Deeg, J.H. (1996). Verbal and physical aggression against demented elderly by informal caregivers in the Netherlands. *Social Psychiatry and Psychiatric Epidemiology*, 31, 156-162.
46. Sasaki, M., Arai, Y., Kumamoto, K., Abe, K., Arai, A., & Mizuno, Y. (2007). Factors related to potentially harmful behaviors towards disabled older people by family caregivers in Japan. *International Journal of Geriatric Psychiatry*, 22, 250-257.
47. Bond, J.B., Cuddy, R., Dixon, G.L., Duncan, K.A., & Smith, D.L. (1999). The financial abuse of mentally incompetent older adults: A Canadian study. *Journal of Elder Abuse & Neglect*, 11, 23-38.
48. Cham, G.W., & Seow, E. (2000). The pattern of elderly abuse presenting to an emergency department. *Singapore Medical Journal*, 41, 571-574.
49. Cooper, C., Katona, C., Finne-Soveri, H., Topinkova, E., Carpenter, G.I., & Livingston, G. (2006). Indicators of elder abuse: A cross-national comparison of psychiatric morbidity and other determinants in the Ad-HOC study. *American Journal of Geriatric Psychiatry*, 14, 489-497.
50. Fulmer, T., Ramirez, M., Fairchild, S., Holmes, D., Koren, M.J., & Teresi, J. (1999). Prevalence of elder mistreatment as reported by social workers in a probability sample of adult day health care clients. *Journal of Elder Abuse & Neglect*, 11, 25-36.
51. Kurrle, S.E., Sadler, P.M., Lockwood, K., & Cameron, I.D. (1997). Elder abuse: Prevalence, intervention and outcomes in patients referred to four aged care assessment teams. *Medical Journal of Australia*, 166, 119-122.
52. Lachs, M.S., Williams, C., O'Brien, S., Hurst, L., & Horwitz, R. (1997). Risk factors for reported elder abuse and neglect: A nine-year observational cohort study. *The Gerontologist*, 37, 469-474.
53. Lecovich, E. (2005). Elder abuse and neglect in Israel: A comparison between the general elderly population and elderly new immigrants. *Family Relations*, 54, 436-447.
54. Livermore, P., Bunt, R., & Biscan, K. (2001) Elder abuse among clients and carers referred to the Central Coast ACAT: a descriptive analysis. *Australasian Journal on Ageing*, 20, 41-47.

55. The National Center on Elder Abuse. (1998). *The National Elder abuse incidence study*. Report No.: Final.
56. Shugarman, L.R., Fries, B.E., Wolf, R.S., & Morris, J.N. (2003). Identifying older people at risk of abuse during routine screening practices. *Journal of the American Geriatrics Society, 51*, 24-31.
57. Vida, S., Monks, R.C., & Des Rosiers, P. (2002). Prevalence and correlates of elder abuse and neglect in a geriatric psychiatry service. *Canadian Journal of Psychiatry- Revue Canadienne de Psychiatrie, 47*, 459-467.
58. Zhu, B.L., Oritani, S., Ishida, K., Quan, L., Sakoda, S., Fujita, M.Q., et al. (2000). Child and elderly victims in forensic autopsy during a recent 5 year period in the southern half of Osaka city and surrounding areas. *Forensic Science International, 113*, 215-218.
59. Pillemer, K., & Moore, DW. (1989). Abuse of Patients in Nursing-Homes - Findings from A Survey of Staff. *The Gerontologist, 29*, 314-320.
60. Saveman, B.I., Aström, S., Bucht, G., Norberg, A. (1999). Elder abuse in residential settings in Sweden. *Journal of Elder Abuse & Neglect, 10*, 43-60.
61. Goergen, T. (2001). Stress, conflict, elder abuse and neglect in German nursing homes: A pilot study among professional caregivers. *Journal of Elder Abuse & Neglect, 13*, 1-26.
62. Jogerst, G.J., Daly, J.M., Dawson, J.D., Peek-Asa, C., & Schmuck, G. (2006). Iowa nursing home characteristics associated with reported abuse. *Journal of the American Medical Directors Association, 7*, 203-207.
63. Wang, J.J. (2006). Psychological abuse and its characteristic correlates among elderly Taiwanese. *Archives of Gerontology and Geriatrics, 42*, 307-318.
64. Cooper, C., Manela, M., Katona, C., & Livingston, G. (2008). Screening for elder abuse in dementia in the LASER-AD study: prevalence, correlates and validation of instruments. *International Journal of Geriatric Psychiatry, 23*, 283-288.
65. Laumann, E.O., Leitsch, S.A., & Waite, L.J. (2008). Elder Mistreatment in the United States: Prevalence Estimates From a Nationally Representative Study. *The Journals of Gerontology Series B: Social Sciences, 63*, 248-254.
66. Aciermo, R., Hernandez, M. A., Amstadter, A. B., Resnick, H. S., Steve, K., Muzzy, W., & Kilpatrick, D. G. (2010). Prevalence and correlates of emotional, physical, sexual, neglectful, and financial abuse in the United States: The National Elder Mistreatment Study. *American Journal of Public Health, 100*, 292-297.
67. Biggs, S., Manthorpe, J., Tinkera, A., Doyleb, M., & Erens, B. (2009). Mistreatment of older people in the United Kingdom: Findings from the first national prevalence study. *Journal of Elder Abuse & Neglect, 21*, 1-14.
68. Lowenstein, A., Eisikovits, Z., Band-Winterstein, T., & Enosh, G. (2009). Is elder abuse and neglect a social phenomenon? Data from the First National Prevalence Survey in Israel. *Journal of Elder Abuse & Neglect, 21*, 253-77.
69. Wolf, R. (1997). Elder Abuse and Neglect: Causes and Consequences. *Journal of Geriatric Psychiatry, 30*, 153-174.
70. Dong, X.Q., Beck, T. & Simon, M.A. (2009). Loneliness and Mistreatment of Older Chinese Women: Does Social Support Matter? *Journal of Women & Aging, 21*, 293-302.
71. Dong, X.Q., Simon, M.A., Gorbien, M., Percak, J. & Golden R. (2007). Loneliness in Older Chinese Adults: A Risk Factor for Elder Mistreatment. *Journal of the American Geriatrics Society, 55*, 1831-1835.

72. Lachs, M.S., Berkman, L., Fulmer, T. & Horwitz, R.I. (1994). A Prospective Community-Based Pilot Study of Risk Factors for the Investigation of Elder Mistreatment. *Journal of the American Geriatrics Society*, 42, 169-173.
73. Litwin, H., & Zoabi, S. (2003). Modernization and Elder Abuse in an Arab-Israeli Context. *Research on Aging*, 25, 224-246.
74. Pasqualini, R., & Mussi, C. (2001) Come riconoscere e prevenire l'abuso nell'anziano. [Recognizing and preventing elder abuse]. *Giornale di Gerontologia*, 49, 42-47.
75. Phillips, R.L. (1983). Abuse and Neglect of the Frail Elderly at Home: An Exploration of Theoretical Relationships. *Journal of Advanced Nursing*, 8, 379-392.
76. Pigatto, A. (2007) Appunti sul maltrattamento dell'anziano, *Prospettive Sociali e Sanitarie*, 37, 6-9.
77. Wolf, R. & Pillemer, K. (1989): *Helping Elderly Victims: The Reality of Elder Abuse*. New York: Columbia University Press.
78. Davidson, J.L. (1979). Elder Abuse. In M.R. Block & J.D. Sinnott (Eds.). *The Battered Elder Syndrome: An Exploratory Study*. College Park, Center on Aging, University of Maryland.
79. Hickey, T., & Douglass, R.L. (1981). Mistreatment of the Elderly in the Domestic Setting: An Exploratory Study. *American Journal of Public Health*, 71, 500-507.
80. Steinmetz, S.K. (1988). *Duty Bound: Elder Abuse and Family Care*. Newbury Park, CA: Sage Publications.
81. Bonnie, R., & Wallace, R. (2003). Risk Factors for Elder Mistreatment. In R. Bonnie & R. Wallace (Eds.). *Elder Mistreatment: Abuse, Neglect, and Exploitation in an Aging America*. Washington, DC: The National Academies Press.
82. Sonkin, D. J.; Martin, D. y Walker, E. A. (1985). *The Male Batterer*. New York: Springer.
83. Anetzberger, G. (1987). *The Etiology of Elder Abuse by Adult Offspring*. Springfield: Charles Thomas.
84. Greenberg, J.R., McKibben, M., & Raymond, J.A. (1990). Dependent Adult Children and Elder Abuse. *Journal of Elder Abuse and Neglect*, 2, 73-86.
85. Hwalek, M., Sengstock, M.C., & Lawrence, R. (1984): Assessing the Probability of Abuse of the Elderly, *Paper presented at the 37th Annual Scientific Meeting of the Gerontological Society of America*. San Antonio, TX.
86. Pillemer, K. (1986). Risk Factors in Elder Abuse: Results from a Case-Control Study. In K. Pillemer & R. Wolf (Eds.). *Elder Abuse: Conflict in the Family*. Dover, MA: Auburn House Publishing Company.
87. Wolf, R., Strugnell C.P., & Godkin, M.A. (1982). *Preliminary Findings from Three Model Projects on Elderly Abuse*. Worcester, MA: Centre on Aging, University of Massachusetts Medical Centre.
88. Anetzberger, G.J.; Korbin, J.E. & Austin, C. (1994). Alcoholism and Elder Abuse. *Journal of Interpersonal Violence*, 9, 184-193.
89. Bristowe, E., & Collins, J.B. (1989). Family Mediated Abuse of Non-Institutionalized Frail Elderly Men and Women Living in British Columbia. *Journal of Elder Abuse & Neglect*, 1, 45-64.
90. Lachs, M.S., & Pillemer, K. (1995). Abuse and neglect of elderly persons. *New England Journal of Medicine*, 332, 437-443.

91. Williamson, G.M., & Shaffer, D.R. (2001). Relationship quality and potentially harmful behaviors by spousal caregivers: How we were then, how we are now. *Psychology and Aging, 16*, 217-226.
92. Dong, X.Q., Beck, T., & Simon, M.A. (2010). The associations of gender, depression and elder mistreatment in a community dwelling Chinese population: The modifying effect of social support. *Archives of Gerontology and Geriatrics, 50*, 202-208.
93. Dong, X.Q., Simon, M.A., Odwazny, R., & Gorbien M. (2008). Depression and elder abuse and neglect among a community-dwelling Chinese elderly population. *Journal of Elder Abuse & Neglect, 20*, 25-41.
94. Dyer, C.B., Pavlik, V.N., Murphy, K.P., & Hyman, D.J. (2000). The high prevalence of depression and dementia in elder abuse or neglect. *Journal of the American Geriatric Society, 48*, 205-208.
95. Fulmer, T.T. (2002). Elder mistreatment. *Annual Review of Nursing Research, 20*, 369-395.
96. Kim, O.S., Yang, K.M., & Kim, K.H. (2005). Dependency, abuse, and depression by gender in widowed elderly. *Journal of Korean Academy of Nursing, 35*, 336-343.
97. Pillemer, K., & Prescott, D. (1989). Psychological Effects of Elder Abuse: A Research Note. *Journal of Elder Abuse & Neglect, 1*, 65-74.
98. Comijs, H.C., Penninx, B.W., Knipscheer, K.P., & van Tilberg, W. (1999). Psychological distress in victims of elder mistreatment: The effects of social support and coping. *Journal of Gerontology: Psychological Science/Social Science, 54*, 240-245.
99. Lachs, M.S., & Pillemer, K. (2004). Elder abuse. *The Lancet, 364*, 1263-1272.
100. Dong, X.Q. (2005) Medical implications of elder abuse and neglect. *Clinics in Geriatric Medicine, 21*, 293-313.
101. Dong, X.Q., Simon, M.A., & Gorbien, M.J. (2007). Elder abuse and neglect in an urban Chinese Population. *Journal of Elder Abuse & Neglect, 19*, 79-96.
102. Lachs, M.S., Williams, C.S., O'Brien, S., Pillemer, K.A., & Charlson, M.E. (1998). The mortality of elder mistreatment. *Journal of the American Medical Association, 280*, 428-432.
103. Dong, X.Q., & Simon, M.A. (2008). Is Greater Social Support a Protective Factor against Elder Mistreatment? *The Gerontology, 54*, 381-388.
104. Zigmond, A.S., & Snaith, R.P. (1983). The hospital anxiety and depression scale. *Acta Psychiatrica Scandinavica, 67*, 361-70.
105. Brähler, E., & Scheer, J.W. (1995). Der Gießener Beschwerdebogen (GEB) (2. Aufl). Bern: Huber.
106. Folkhälsorapport (2007). *Folkhälsan i Stockholms län 2007*. Stockholm: Centrum för folkhälsa, Stockholms läns landsting.
107. Zimet, G.D., Dahlem, N.W., Zimet, S.G., & Farley, G.K. (1988). The multidimensional scale of perceived social support. *Journal of Personality Assessment, 52*, 30-41.
108. Zimet, G.D., Powell, S.S., Farley, G.K., Werkman, S., & Berkoff, K.A. (1990). Psychometric properties of the multidimensional scale of perceived social support. *Journal of Personality Assessment, 55*, 610-617.
109. Power, M., Quinn, K., & Schmidt, S. (2005). WHOQOL-OLD Group. Development of the WHOQOL-Old module. *Quality of Life Research, 14*, 2197-2214.

110. Babor, T.F., Higgins-Biddle, J.C., Saunders, J.B., & Monteiro, M.G. (2001). *The Alcohol Use Disorders Identification Test: Guidelines for use in primary care* (2nd ed.). Geneva, Switzerland: World Health Organization Department of Mental Health and Substance Abuse.
111. van Dijk, J., Manchin, R., van Kesteren, J., Nevala, S., & Hideg, G. (2005). *The burden of Crime in the EU*. EU ICS.
112. Eurostat (2008). *The life of women and men in Europe: A statistical portrait*. Luxembourg: Eurostat.
113. Grundy, E. (2006). Ageing and vulnerable elderly people: European perspectives. *Ageing & Society*, 26, 105–134.
114. Santana, P. (2002). Poverty, social exclusion and health in Portugal. *Social Science & Medicine*, 55, 33–45.
115. Winquist, K. (2002). *Women and Men Beyond Retirement. Statistics in Focus, Population and Social Conditions*. Theme 3, 21/2203, Luxembourg: Eurostat.
116. Brown, A. (1989) A survey on elder abuse at one Native American tribe. *Journal of Elder abuse & Neglect*, 1, 17-37.
117. Benson, M.L., Greer L. Fox, G.L., Alfred DeMaris, A., & Van Wyk, J. (2003). Neighborhood disadvantage, individual economic distress and violence against women in intimate relationships. *Journal of Quantitative Criminology*, 19, 207-235.
118. Kosberg, J.I., & Garcia, J.L. (1995). *Elder abuse: International and Cross-Cultural Perspectives*. New York: The Haworth Press.
119. World Health Organization. (2002). *Injury: A leading cause of the global burden of disease*. Geneva: Author.
120. World Health Organization. (2002). *The injury chart book: A graphical overview of the global burden of injuries*. Geneva: Author.
121. Wolf, R.S., & Donglin Li, D. (1999). Factors affecting the rate of elder abuse reporting to a state protective services program. *The Gerontologist*, 39, 222-228.
122. Vyas, S., & Watts, C. (2009). How does economic empowerment affects women's risk of intimate partner violence in low and middle income countries: A systematic review of published evidence. *Journal of International Development*, 21, 577-602.
123. Chappell, D. & Di Martino, V. (2006). *Violence at work* (2nd ed.). Geneva: International Labour Organisation.
124. Paoli, P., & Merli , D. (2003). *Third European survey on working conditions*. Dublin: European Foundation for the Improvement of Living and Working Conditions (<http://www.eurofound.eu.int/publications/htmlfiles/EF0121.htm>).
125. Timmerman, G., & Bajema, C. (1999). Sexual harassment in Northwest Europe: A cross-cultural comparison. *European Journal of Women's Studies*, 6, 419-439.
126. Chamberlain, L.J., Crowley, M., Tope, D., & Hodson, R. (2008). Sexual harassment in organizational context. *Work and Occupations*, 35, 262-295.
127. Boles, S., & Miotto, K. (2003). Substance abuse and violence: a review of the literature, *Aggression and Violent Behaviour*, 8, 155–174.
128. Bradshaw, D., & Spencer, C. (1999). The Role of Alcohol in Elder Abuse Cases. In J. Pritchard (Ed.). *Elder Abuse Work: Best Practice in Britain and Canada*. London: Kingsley Publishing.

129. Choi, N.G., & Mayer, J. (2000). Elder abuse, neglect, and exploitation: Risk factors and prevention strategies. *Journal of Gerontological Social Work*, 33, 5-25.
130. Hourani, L.L., Yuan, H., Bray, R.M., & Vincus, A.A. (1999). Psychosocial correlates of nicotine dependence among men and women in the U.S. naval services. *Addictive Behaviors*, 24, 521-536.
131. Ackerson, L.K., Kawachi, I., Barbeau, E.M., & Subramanian, S.V. (2007). Exposure to domestic violence associated with adult smoking in India: A population-based study. *Tobacco Control*, 12, 378-383.
132. Songer, T.J., Coben, J.H., Ettaro, L., & Staren, D. (2000). *Health Care Costs Associated with Violence in Pennsylvania*. Health Services Research Camp Hill, PA.
133. Minayo, M.C.S. (2003). Violence against the elderly: The relevance of an old health problem. *Cadernos de Saude Publica*, 19, 783-791.
134. Barsky, A.J., Peekna, H.M. & Borus, J.F. (2001). Somatic symptom Reporting in women and men. *Journal of General Internal Medicine*, 16: 266-275
135. Bressler, H., Keyes, W., Rochon, P., & Bradley, E. (1999). The prevalence of low back pain in the elderly. A systematic review of the literature. *Spine*, 24, 1813-1819.
136. Gilmore, A., McKee, M., & Rose, M. (2002) Determinants of and inequalities in self-perceived health in Ukraine. *Social Science & Medicine*, 55, 2177-2188.
137. Gunzelmann, T., Hinz, A., & Braehler, E. (2006) Subjective health in older people. *GMS Psycho-Social-Medicine*, 3, 1-10.
138. Hartvigsen, J., Christensen, K., & Frederiksen, H. (2004). Back and neck pain exhibit many common features in old age: A population-based study of 4,486 Danish twins 70-102 years of age. *Spine*, 29, 576-580.
139. Ihlebaek, C., Eriksen, H.R., & Ursin, H. (2002). Prevalence of subjective health complaints (SHC) in Norway. *Scandinavian Journal of Public Health*, 30, 20-29.
140. Kasmel, A., Helasoja, V., Lipand, A., Pratala, R., Klumbiene, J., & Pudule, I. (2004) Association between health behavior and self-reported health in Estonia, Finland, Latvia and Lithuania. *European Journal of Public Health*, 14, 32-36.
141. Kroenke, K., Spitzer, R.L. (1998). Gender differences in the reporting of physical and somatoform symptoms. *Psychosomatic Medicine*, 60, 150-155.
142. Ladwig, K.H., Marten-Mittag, B., Formanek, B., & Dammann, G. (2000). Gender differences of symptom reporting and medical health care utilization in the German population. *European Journal of Epidemiology*, 16, 511-518.
143. Molarius, A., & Janson, S. (2002). Self-rated health, chronic diseases, and symptoms among middle-aged and elderly men and women. *Journal of Clinical Epidemiology*, 55, 364-370.
144. McFadden, E., Luben, R., Bingham, S., Wareham, N., Kinmonth, A.L., & Khaw, K.T. (2008). Social inequalities in self-rated health by age: cross-sectional study of 22,457 middle-aged men and women. *BMC Public Health*, 8, 230-238.
145. Tsai, C-H. (2010). Factor analysis of the clustering of common somatic symptoms: a preliminary study. *BMC Health Services Research*, 10, 1-8.
146. Crook, J., Rideout, E., & Browne, G. (1984). The prevalence of pain complaints in a general population. *Pain*, 18, 299-314.
147. Haug, T.T., Mykletun, A., & Dahl, A.A. (2004). The association between anxiety, depression, and somatic symptoms in a large population: the HUNT-II study. *Psychosomatic Medicine*, 66, 845-851.

148. Katon, W., Lin, E., Von Korff, M., Russo, J., Lipscomb, P., & Bush, T. (1991). Somatization: A spectrum of severity. *American Journal of Psychiatry*, *148*, 34–40.
149. Koenig, H.G., Cohen, H.J., Blazer, D.G., Krishnan, K.R., & Sibert, T.E. (1993). Profile of depressive symptoms in younger and older medical inpatients with major depression. *Journal of the American Geriatrics Society*, *41*, 1169-1176.
150. Mulsant, B.H., Ganguli, M., & Seaberg, E.C. (1997). The relationship between self-rated health and depressive symptoms in an epidemiological sample of community-dwelling older adults. *Journal of the American Geriatrics Society*, *45*, 954-958.
151. Nakao, M., Yamanaka, G., & Kubecki, T. (2001). Major depression and somatic symptoms in a mind/body clinic. *Psychopathology*, *34*, 230–235.
152. Penninx, B.W., & Dyck, R. (2010). Depression and somatic comorbidity. *Nederlands Tijdschrift Voor Geneeskunde*, *154*, A1784.
153. Stewart, R.B., Blashfield, R., Hale, W.E., Moore, M.T., May, F.E., & Marks, R.G. (1991). Correlates of Beck Depression Inventory scores in an ambulatory elderly population: symptoms, diseases, laboratory values, and medications. *The Journal of Family Practice*, *32*, 497-502.
154. Tsai, C.H., Wang, C., Lin, I.H., Wu, W.C., Chen, Y.C., & Lin, C.D. (2000). A study of pain and cardiopulmonary symptoms and their related factors among the elderly. *Chinese Journal of Family Medicine*, *10*, 173-181.
155. Waxman, H.M., McCreary, G., Weinrit, R.M., & Carner, E.A. (1985). A comparison of somatic complaints among depressed and non-depressed older persons. *Gerontologist*, *25*, 501-507.
156. Berkman, L.F. (1984). Assessing the Physical Health Effects of Social Networks and Social Support. *Annual Review of Public Health*, *5*, 413-432.
157. Berkman, L. F., Glass, T., Brissette, I. & Seeman, T. E. (2000). From social integration to health: Durkheim in the new millennium. *Social Science & Medicine*, *51*, 843-857.
158. Tomaka, J., Thompson, S., & Palacios, R. (2006). The relation of social isolation, loneliness, and social support to disease outcomes among the elderly. *Journal of Aging and Health*, *18*, 359-384.
159. Zhang, X., Norris, S.L., Gregg, E.W., & Beckles, G. (2007). Social support and mortality among older persons with diabetes. *Diabetes Education*; *33*, 273-281.
160. Anderson, C., Rubenach, S., Mhurchu, C.N., Clark, M., Spencer, C., & Winsor, A. (2000). Home or hospital for stroke rehabilitation? Results of a randomized controlled trial. *Stroke*, *31*, 1024–1031.
161. Boaz, R.F., & Muller, C.F. (1994). Predicting the risk of ‘permanent’ nursing home residence: The role of community help as indicated by family helpers and prior living arrangements. *Health Services Research*, *29*, 391-414.
162. Skinner K.M., Tennstedt S.L., Crawford S.L. (1994) Do characteristics of informal caregivers affect the length of hospital stay for frail elders? *Journal of Ageing and Health*, *6*, 255-269.
163. Alonso, J., Angermeyer, M.C., Bernert, S., Bruffaerts, R., Brugha, T.S., Bryson, H., et al. (2004b)- Prevalence of mental disorders in Europe: results from the European Study of the Epidemiology of Mental Disorders (ESEMeD) project. *Acta Psychiatrica Scandinavica*, *420*, 21-27.

164. Castro-Costa, E., Dewey, M., Stewart, R., Banerjee, S., Huppert, F., Mendonca-Lima, C., et al. (2007). Prevalence of depressive symptoms and syndromes in later life in ten European countries: the SHARE study. *British Journal of Psychiatry*, 191, 393-401.
165. Ploubidis, G.B., & Grundy, E. (2009) Later-life mental health in Europe: A country-level comparison. *Journal of Gerontology: Series B Psychological Science*, 64, 666-676.
166. Prince, M.J., Beekman, A.T., Deeg, D.J., Fuhrer, R., Kivela, S.L., Lawlor, B.A., Lobo, A., et al. (1999). Depression symptoms in late life assessed using the EURO-D scale. Effect of age, gender and marital status in 14 European centres. *British Journal of Psychiatry*, 174, 339-45.
167. Ayuso-Mateos, J.L., Vasquez-Barquero, J.L., Dowrick, C., Lehtinen, V., Dalgard, O.S., Casey, P., Wilkinson, C., et al. (2001)- Depressive disorders in Europe: prevalence figures from the ODIN study. *British Journal of Psychiatry*, 179, 308-16.
168. Alonso, J., Angermeyer, M.C., Bernert, S., Bruffaerts, R., Brugha, T.S., Bryson, H., et al. (2004). 12-Month comorbidity patterns and associated factors in Europe: results from the European Study of the Epidemiology of Mental Disorders (ESEMeD) project. *Acta Psychiatrica Scandinavica*, 420, 28-37.
169. Simon, G.E., Goldberg, D.P., Von Korff, M. & Ustun, T.B. (2002) Understanding cross-national differences in depression prevalence. *Psychological Medicine*, 32, 585-594.
170. Salomon, J.A., Tandon, A. & Murray, C.J. (2004). Comparability of self rated health: cross sectional multi-country survey using anchoring vignettes. *British Medical Journal*, 328, 258.
171. Propper, C.K., Jones, A., Bolster, S., Burgess, R., & Sarker, J.R. (2004). *Local neighbourhood and mental health: Evidence from the UK*. University of Bristol, CMPO, WP 04/099.
172. Cagney, K.A., & Lauderdale, D.S. (2002) Education, wealth, and cognitive function in later life. *Journal of Gerontology. Series B Psychological Science*, 57, 163-172.
173. Dos Santos, M.J., & Kassouf, A.L. (2007). Uma investigação dos determinantes socioeconômicos da depressão mental no Brasil com ênfase nos efeitos da educação. *Economia Aplicada*, 11, 5-26.
174. Richards, M., Shipley, B., Fuhrer, R. & Wadsworth, M.E. (2004) Cognitive ability in childhood and cognitive decline in mid-life: Longitudinal birth cohort study. *British Medical Journal*, 328, 552.
175. Kessler, R.C. (2007) The global burden of anxiety and mood disorders: putting the European Study of the Epidemiology of Mental Disorders (ESEMeD) findings into perspective. *Journal of Clinical Psychiatry*, 68, 10-19.
176. Kubzansky, L.D., Kawachi, I., & Sparrow, D. (1999). SocioEconomic status, hostility, and risk factor clustering in the normative aging study: Any help from the concept of allostatic load? *The Society of Behavioural Medicine*, 21, 330-338.
177. Feinstein, L. (2002). *Quantitative estimates of the social benefits of learning, 2: health (depression and obesity), wider benefits of learning*. Research Report, 6. London: Centre for research on the wider benefits of learning, Institute of Education.
178. Hammond, C. (2002). *Learning to be healthy. The Wider Benefits of Learning Papers, 3*. London: Centre for research on the wider benefits of learning, Institute of Education.
179. Schuller, T., et al. (2002). *Learning, continuity and change in adult life. Wider benefits of learning*. Research Report, 3. London: Centre for research on the wider benefits of learning, Institute of Education.

180. Bond, J., & Corner, L. (2004). *Quality of Life and Older People*. Buckingham: Open University Press.
181. Zaidi, A. (2006). *Poverty and Elderly People in EU25. Policy Brief August 2006*. European centre.
182. Beekman, A.T., Copeland, J.R., & Prince, M.J. (1999). Review of community prevalence of depression in later life. *British Journal of Psychiatry*, *174*, 307-311.
183. Beekman, A.T., De Beurs, E., Van Balkom, A.J., Deeg, D.J., Van Dyck, R., & Van Tilburg, W. (2000). Anxiety and depression in later life: Co-occurrence and communality of risk factors. *American Journal of Psychiatry*, *157*, 89-95.
184. Fryers, T., Melzer, M., & Jenkins, R. (2003). Social inequalities and the common mental disorders. A systematic review of the evidence. *Social Psychiatry and Psychiatric Epidemiology*, *38*, 229-237.
185. Grossi G. (1999). *The stress of unemployment—coping patterns, psychological and physiological responses and implications for health*. PhD dissertation, University of Stockholm, Sweden.
186. Judd, L.L., Paulus, M.P., Wells, K.B., & Rapaport, M.H. (1996). Socioeconomic burden of subsyndromal depressive symptoms and major depression in a sample of the general population. *American Journal of Psychiatry*, *153*, 1411-1417.
187. Ladin, K., Daniels, N., & Kawachi, I. (2010) Exploring the relationship between absolute and relative position and late-life depression: Evidence from 10 European countries. *Gerontologist*, *50*, 48-59.
188. Lynch, J., Smith, G.D, Kaplan, G.A., & House, J.S. (2000). Income inequality and mortality: importance to health of individual income, psychosocial environment, or material conditions. *British Medical Journal*, *320*, 1200-1204.
189. Pincus, T., & Callahan, L.F. (1995). What explains the association between socioeconomic status and health: primarily access to medical care or mind-body variables? *Advances*, *11*, 4-36.
190. Price, R.H., Choi, J., & Vinokur, A.D. (2002). Links in the chain of adversity following job loss: How financial strain and loss of personal control lead to depression, impaired functioning and poor health. *Journal of Occupational Health Psychology*, *7*, 302-312.
191. Soares, J.J.F, Sundin, Ö., & Grossi, G. (2004). The stress of musculoskeletal pain A comparison between primary care patients in various ages. *Journal of Psychosomatic Research*, *56*, 297-305.
192. Soares, J.J.F., Macassa, G., & Fandino-Losada, A. (2007). Psychosocial experiences among female and male primary care patients with and without pain. *The Pain Clinic*, *19*, 58-70.
193. Vinokur, A.D., Price, R.H., & Caplan, R.D. (1996). Hard times and hurtful partners: How financial strain affects depression and relationship satisfaction of unemployed persons and their spouses. *Journal of Personality and Social Psychology*, *71*, 166-179.
194. Bartels, S.J., Blow, F.C., Brockmann, L. M., & Citters, A.D.V. (2005). *Substance Abuse and Mental Health Among Older Americans: The State of the Knowledge and Future Directions*. Westat.
195. Goldberg, R.J., Burchfiel, C.M., Reed, D.M., Wergowske, G., & Chiu, D. (1994). A prospective study of the health effects of alcohol consumption in middle-aged and elderly men. The Honolulu Heart Program. *Circulation*, *89*, 651-659.

196. Jané-Llopis, E., & Gabilondo, A. (Eds.). (2008). *Mental health in older people. Consensus paper*. Luxembourg: European Communities.
197. O'Connell, H., Chin, A.V., Cunningham, C., & Lawlor, B (2003). Alcohol use disorders in elderly people – redefining an age old problem in old age. *British Medical Journal*, 327, 664-667.
198. Snow, W.M., Murray, R., Ekuma, O., Tyas, S.L., & Barnes, G.E. (2009). Alcohol use and cardiovascular health outcomes: a comparison across age and gender in the Winnipeg Health and Drinking Survey Cohort. *Age Ageing*, 38, 206–212.
199. WHO (2004). *WHO global status report on alcohol. 2004*. Geneva: Author.
200. Wilkinson, R., & Pickett, K. (2010). *The Spirit Level Why More Equal Societies Almost Always Do Better*. London: Penguin Books.
201. Knoops, K.T., de Groot, L.C., Kromhout, D., Perrin, A.E., Moreiras-Varela, O., et al. (2004). Mediterranean diet, lifestyle factors, and 10-year mortality in elderly European men and women: the HALE project. *JAMA*, 292, 1433–1439.
202. Lang, I., Guralnik, J., Wallace, R.B., & Melzer, D. (2007). What level of alcohol consumption is hazardous for older people? Functioning and mortality in US and English national cohorts. *Journal of the American Geriatric Society*, 55, 49–57.
203. Paganini-Hill, A., Kawas, C.H., & Corrada, M.M. (2007). Type of alcohol consumed, changes in intake over time and mortality: The Leisure World Cohort Study. *Age and Ageing*, 36, 203–209.
204. Rimm, E.B., Klatsky, A., Grobbee, D., & Stampfer, M.J. (1996). Review of moderate alcohol consumption and reduced risk of coronary heart disease: is the effect due to beer, wine, or spirits? *British Medical Journal*, 312, 731-736.
205. Rimm, E.B., Williams, P., Fosher, K., Criqui, M., & Stampfer, M.J. (1999). Moderate alcohol intake and lower risk of coronary heart disease: Meta-analysis of effects on lipids and haemostatic factors. *British Medical Journal*, 319, 1523-1528.
206. Ruitenberg, A., van Swieten, J.C., Witteman, J.C., Mehta, K.M., van Duijn, C.M., Hofman, A., & Breteler, M.M (2002). Alcohol consumption and risk for dementia: The Rotterdam study. *Lancet*, 359, 281-286.
207. Thun, M.J., Peto, R., Lopez, A.D., Monaco, J.H., Henley, S.J., Heath, C.W. Jr et al. (1997). Alcohol consumption and mortality among middle-aged and elderly US adults. *New England Journal of Medicine*, 337, 1705–1714.
208. Lipowski, Z. (1990) Somatization and depression. *Psychosomatics*, 31, 13–21.
209. Mendes de Leon, C.F., Gold, D.T., Glass, T.A., Kaplan, L., & George, L.K. (2001). Disability as a function of social network and support in elderly African Americans and Whites: The Duke EPESE 1986–1992. *Journal of Gerontology: Social Sciences*, 56, 179–190.
210. Gray, A. (2009). The social capital of older people. *Ageing & Society*, 29, 5–31.
211. Walker, A., & Mollenkopf, H (2007). International and multidisciplinary perspectives on quality of life in old age: conceptual issues. In Mollenkopf, H., Walker, A. (Eds.). *Quality of life in old age: international and multi-disciplinary issues*. New York: Springer.
212. Seeman, T.E., Lusignolo, T.M., Albert, M., & Berkman, L. (2001). Social relationships, social support, and patterns of cognitive aging in healthy, high-functioning older adults: MacArthur Studies of Successful Aging. *Health Psychology*, 20, 243–255.

213. Pinquart, M., & Sorensen, S. (2000). Influences of Socioeconomic Status, Social Network, and Competence on Subjective Well-Being in Later Life: A Meta-Analysis. *Psychology and Aging, 15*, 187-224.
214. Stroebe, W. (2000). *Social psychology and health*. Philadelphia: Open University Press.
215. Wilhelmson, K., Andersson, C., Waern, M., & Allebeck, P. (2005). Elderly people's perspectives on quality of life. *Ageing and Society, 25*, 585-600.
216. Abu-Rayya, H.M. (2006). Depression and social involvement among elders. *Internet Journal of Health, 5*, 1-9.
217. Brugha, T.S., Morgan, Z., Bebbington, P., Jenkins, R., Lewis, G., Farrell, M., & Meltzer, H. (2003). Social support networks and type of neurotic symptom among adults in British households. *Psychological Medicine, 33*, 307-318.
218. Ford, E.S., Loucks, E.B., & Berkman, L.F. (2006). Social integration and concentrations of C-reactive protein among US adults. *Annals of Epidemiology, 16*, 78-84.
219. Loucks, E.B., Berkman, L.F., Gruenewald, T.L., & Seeman, T.E. (2006). Relation of social integration to inflammatory marker concentrations in men and women 70 to 79 years. *American Journal of Cardiology, 97*, 1010-1016.
220. Loucks, E.B., Berkman, L.F., Gruenewald, T.L., & Seeman, T.E. (2005). Social integration is associated with fibrinogen concentration in elderly men. *Psychosomatic Medicine, 67*, 353-358.
221. Melchior, M., Berkman, L.F., Niedhammer, I., Chea, M., & Goldberg, M. (2003). Social relations and self reported health: a prospective analysis of the French Gazel cohort. *Social Science & Medicine, 56*, 1817-1830.
222. Seeman, T.E. (2000). Health promoting effects of friends and family on health outcomes in older adults. *American Journal of Health Promotion, 14*, 362-370.
223. White, A.M., Philogene, G.S., Fine, L., & Sinha, S. (2009). Social support and self-reported health status of older adults in the unites states. *American Journal Public Health, 99*, 1872-1878.
224. Uchino, B. (2006). Social support and health: A review of physiological processes potentially underlying links to disease outcomes. *Journal of Behavioral Medicine, 29*, 377-387.
225. Uchino, B.N., Cacioppo, J.T., Kiecolt-Glaser, J.K. (1996). The relationship between social support and physiological processes: a review with emphasis on underlying mechanisms and implications for health. *Psychological Bulletin, 119*, 488-531.
226. Vink, D., Aartsen, M.J., Comijs, H.C., Heymans, M.W., Penninx, B.W., Stek, M.L., Deeg, D.J., & Beekman, A.T. (2009). Onset of anxiety and depression in the aging population: comparison of risk factors in a 9-year prospective study. *American Journal of Geriatric Psychiatry, 17*, 642-52.
227. Schoevers, R.A., Beekman, A.T., Deeg, D.J., Jonker, C., & Van Tilburg, W. (2003). Comorbidity and risk-patterns of depression, generalised anxiety disorder and mixed anxiety-depression in later life: results from the AMSTEL study. *International Journal of Geriatric Psychiatry, 18*, 994-1001.
228. Somers, J.M., Goldner, E.M., Waraich, P., et al. (2006). Prevalence and incidence studies of anxiety disorders: A systematic review of the literature. *Canadian Journal of Psychiatry, 51*, 100-113.

229. Wittchen, H.U., & Jacobi, F. (2005). Size and burden of mental disorders in Europe: A critical review and appraisal of 27 studies. *European Neuropsychopharmacology*, *15*, 357-376.
230. Arber, S., & Cooper, H. (1999). Gender differences in health in later life: The new paradox? *Social Science & Medicine*, *48*, 61-76.
231. Denton, M., & Walters, V. (1999). Gender Differences in Structural and Behavioral Determinants of Health: An Analysis of the Social Production of Health. *Social Science & Medicine*, *48*, 1221-1235.
232. Denton, M., Prus, S., & Walters, V. (2004). Gender Differences in Health: A Canadian Study of the Psychosocial, Structural, and Behavioral Determinants of Health. *Social Science & Medicine*, *58*, 2585-2600.
233. McDonough, P., & Walters, V. (2001). Gender and Health: Reassessing Patterns and Explanations. *Social Science & Medicine*, *52*, 547-559.
234. Ross, C.E., & Bird, C.E. (1994). Sex Stratification and Health Lifestyle: Consequence for Men's and Women's Perceived Health. *Journal of Health and Social Behavior*, *35*, 161-178.
235. Goode, W.J. (1949). Problems in post-adjustment. *American Sociological Review*, *14*, 394-401.
236. Srole, L., Langner, T.S., Michael, S.T., Opler, M.K., & Rennie, T.A.C. (1962). *Mental Health in the Metropolis*. New York: McGraw-Hill
237. Wyke, S., & Ford, G. (1992). Competing explanations for associations between marital status and health. *Social Science & Medicine*, *5*, 523-532.
238. Crago, M.A. (1972). Psychopathology in married couples. *Psychological Bulletin*, *77*, 114-128.
239. Bloom, B.L., Asher, S.J., & White, S.W. (1978). Marital disruption as a stressor: A review and analysis. *Psychological Bulletin*, *85*, 867-894.
240. M. Richards, M., Hardy, R., & Wadsworth, M. (1997). The effects of divorce and separation on mental health in a national UK birth cohort. *Psychological Bulletin*, *27*, 1121-1128.
241. Rodgers, B. (1994). Pathways between parental divorce and adult depression. *Journal of Child Psychology and Psychiatry*, *35*, 1289-1308.
242. Rodgers, B. (1996). Reported parental behaviour and adult affective symptoms, 2. Mediating factors. *Psychological Medicine*, *26*, 63-77.
243. Ebrahim, S., Wannamethee, G., McCallum, A., Walker, M., & Shaper, A.G. (1995). Marital status, change in marital status, and mortality in middle-aged British men. *American Journal of Epidemiology*, *142*, 834-842.
244. Friedman, H.S., Tucker, J.S., Schwartz, J.E., Tomlinson-Keasey, C., Martin, L.R., Wingard, D.L. & Criqui, M.H. (1995). Psychosocial and behavioral predictors of longevity. *American Psychologist*, *50*, 69-78.
245. Gordon, H. S. & Rosenthal, G. E. (1995). Impact of marital status on outcomes in hospitalised patients. *Archives of Internal Medicine*, *155*, 2465-2471.
246. Andreyeva, T., Michaud, P.C., & van Soest, A. (2007). Obesity and health in Europeans aged 50 years and older. *Public Health*, *121*, 497-509.

247. Bruffaerts, R., Demyttenaere, K., Vilagut, G., Martinez, M., Bonnewyn, A., De Graaf, R., et al. (2008). The relation between body mass index, mental health, and functional disability: A European population perspective. *Canadian Journal of Psychiatry*, *53*, 679–688.
248. Flegal, K.M., Graubard, B.I., Williamson, D.F., et al. (2005). Excess deaths associated with underweight, overweight, and obesity. *JAMA*, *20*, 1961–1969.
249. Guh, D.P., Zhang, W., Bansback, N., Amarsi, Z., Birmingham, C.L., & Anis A.H. (2009). The incidence of co-morbidities related to obesity and overweight: a systematic review and meta-analysis. *BMC Public Health*, *9*, 88.
250. Lopez-Garcia, E., Banegas Banegas, J.R., Gutierrez-Fisac, J.L., Perez-Regadera, A.G., Ganan, L.D., Rodriguez-Artalejo, F. (2003). Relation between body weight and health-related quality of life among the elderly in Spain. *International Journal of Obesity Related Metabolic Disorder*, *27*, 701–709.
251. Peytremann-Bridevaux, I., & Santos-Eggimann, B. (2008). Health correlates of overweight and obesity in adults aged 50 years and over: results from the Survey of Health, Ageing and Retirement in Europe (SHARE). *Swiss Medical Weekly*, *138*, 261–266.
252. Roberts, R.E., Deleger, S., & Strawbridge, W.J., et al. (2003). Prospective association between obesity and depression: evidence from the Alameda County Study. *International Journal of Obesity*, *27*, 514–521.
253. Renehan, A., Tyson, M., Egger, M., Heller, R, Zwahlen, M. (2008). Body-mass index and incidence of cancer: a systematic review and meta-analysis of prospective observational studies. *Lancet*, *371*, 569-578.
254. Sternfeld, B., Ngo, L., Satariano, W.A., & Tager, IB. (2002). Associations of body composition with physical performance and self-reported functional limitation in elderly men and women. *American Journal of Epidemiology*, *156*, 110–121.
255. Zhao, G., Ford, E.S., Dhingra, S.T.W., Strine, T.Y.W., & Mokdad, A.H. (2009). Depression and anxiety among US adults: associations with body mass index. *International Journal of Obesity*, *33*, 257–266.
256. Zamboni, M., Mazzali, G., Zoico, E., Harris, T.B., Meigs, J.B., Di Francesco, V., et al. (2005). Health consequences of obesity in the elderly: a review of four unresolved questions. *International Journal of Obesity*, *29*, 1011-1029.
257. Yan, L.L., Daviglius, M.L., Liu, K., Pirzada, A., Garside, D.B., Schiffer, L., et al.. (2004). BMI and Health-Related Quality of Life in Adults 65 Years and older. *Obesity Research*, *12*, 69–76.
258. Marmot, M.G., Davey Smith, G., Stansfield, S., et al. (1991). Health Inequalities among British civil servants: The Whitehall II study. *Lancet*, *337*, 1387–1393.
259. Damian, L., Ruigomez, A., Pastor V., & Martin-Moreno, J. (1999). Determinants of self-assessed health among Spanish older people living at home. *Journal of Epidemiology and Community Health*, *53*, 412-416.
260. Zhao, J., Barclay, S., Farquhar, M., Kinmonth, A.L., Brayne, C., & Fleming, J. (2010). The Oldest Old in the Last Year of Life: Population-Based Findings from Cambridge City over-75s Cohort Study Participants Aged 85 and Older at Death. *Journal of the American Geriatrics Society*, *58*, 1-11.
261. Jang, Y., Poon, L.W., & Martin, P. (2004). Individual differences in the effects of disease and disability on depressive symptoms: the role of age and subjective health. *International Journal of Aging & Human Development*, *59*, 125-137.

262. Martin, P., Rott, C., Poon, L.W., Courtenay, B., & Lehr, U. (2001). A molecular view of coping behavior in older adults. *Journal of Aging and Health, 13*, 72-91.
263. Bennett, K.M. (2006). Does marital status and marital status change predict physical health in older adults? *Psychological Medicine, 36*, 1313-1320.
264. Kalediene, R., Petrauskienė, J., & Starkuviene, S. (2007) Inequalities in mortality by marital status during socio-economic transition in Lithuania. *Public Health, 121*, 385-392.
265. Korenman, S., Goldman, N., & Fu, H. (1997). Misclassification bias in estimates of bereavement effects. *American Journal of Epidemiology, 145*, 995-1002.
266. Manzoli, L., Villari, P., Pirone, G.M., & Bocci, A. (2007). Marital status and mortality in the elderly: A systematic review and meta-analysis. *Social Science & Medicine, 64*, 77-94
267. Mineau, G.P., Smith, K.R., & Bean, L.L. (2002). Historical trends of survival among widows and widowers. *Social Science & Medicine, 54*, 245-254.
268. Prigerson, H.G.P., Maciejewski, P.K.P., & Rosenheck, R.A.M.D. (1999). The effects of marital dissolution and marital quality on health and health service use among women. *Medical Care, 37*, 858-873.
269. Schaefer, C., Quesenberry, C. P., & Wi, S. (1995). Mortality following conjugal bereavement and the effects of a shared environment. *American Journal of Epidemiology, 141*, 1142- 1152.
270. Williams, K., & Umberson, D. (2004). Marital status transitions and health: a gendered life course perspective. *Journal of Health and Social Behavior, 45*, 81-98.
271. Zick, C.D., & Smith, K.R. (1991). Patterns of economic changes surrounding the death of a spouse. *Journal of Gerontology: Social Sciences, 46*, 310-320.
272. Gove, W.R., Hughes, M., & Style, C.B. (1983). Does marriage have positive effects on the psychological well-being of the individual? *Journal of Health and Social Behavior, 24*, 122-131
273. Grabauskas, V., Klumbienė, J., Petkeviciene, J., Dregval, L., Saferis, V., Prättälä, R., et al. (1999). *Health behaviour among Lithuanian adult population, 1998*. Helsinki: Publications of the National Public Health Institute, 1999.
274. Hemstrom, O. (1996). Is marriage dissolution linked to differences in mortality Risks for Men and Women? *Journal of Marriage and the Family, 58*, 366-378.
275. Lillard, L.A., & Linda J. Waite, L.J. (1995). Till death do us part: Marital disruption and mortality. *American Journal of Sociology, 100*, 1131-1156.
276. Rogers, R.G. (1995). Marriage, sex, and mortality. *Journal of Marriage and the Family, 57*, 515-526.
277. Waite, L., & Gallagher, M. (2000). *The case for marriage: Why married people are happier, healthier, and better off financially*. New York: Broadway Books.
278. Ross, C. E., Mirowsky, J., & Goldsteen, K. (1990). The impact of the family on health: The decade in review. *Journal of Marriage and the Family, 52*, 1059-1078.
279. Umberson, D., Wortman, C. B., & Kessler, R. C. (1992). Widowhood and depression: Explaining long-term gender differences in vulnerability. *Journal of Health and Social Behavior, 33*, 10-24.
280. Umberson, D. (1987). Family status and health behaviors: social control as a dimension of social integration. *Journal of Health and Social Behavior, 28*, 306-319.

281. Krause, N.M., & Jay, G.M. (1994). What do global self-rated health items measure? *Medical Care*, 32, 930-942.
282. Berkman, L., & I Kawachi, I. (2000). *Social Epidemiology*. New York: Oxford University Press.
283. Al-Windi, A. (2005). The relations between symptoms, somatic and psychiatric conditions, life satisfaction and perceived health. A primary care based study. *Health and Quality of Life Outcomes*, 28, 1-9.
284. Hoedeman, R., Blankenstein, A.H., Krol, B., Koopmans, P.C., & Groothoff, J.W. (2010). The contribution of high levels of somatic symptom severity to sickness absence duration, disability and discharge. *Journal of Occupational Rehabilitation*, 20, 264-273.
285. Ihlebaek, C., Eriksen, H.R., & Ursin, H. (2002). Prevalence of subjective health complaints (SHC) in Norway. *Scandinavian Journal of Public Health*, 30, 20-29.
286. Field, E., Walker, M. H., & Orrell, M. (2002). Social networks and health of older people living in sheltered housing. *Aging and Mental Health*, 6, 372-386.
287. van der Scheer, E., Boersma, F., & Deeg, D.J. (2003). The health status and health care use of elderly living in sheltered residences. A comparison with independently living elderly. *Tijdschrift voor Gerontologie en Geriatrie*, 34, 162-167.
288. Walker, M., Orrell, M., Manela, M., Livingston, G., & Katona, C. (1998). Do health and use of services differ in residents of sheltered accommodation? A pilot study. *International Journal of Geriatric Psychiatry*, 13, 617-624.
289. Sha, M.C., Callahan, C.M., Counsell, S.R., Westmoreland, G.R., Stump, T.E., & Kroenke, K. (2005). Physical symptoms as a predictor of health care use and mortality among older adults. *The American Journal of Medicine*, 118, 301-306.
290. Berkman, L.F. (1995). The role of social relations in health promotion. *Psychosomatic Medicine*, 57, 245-254.
291. Cohen, S. (1988). Psychosocial models of the role of social support in the etiology of physical disease. *Health Psychology*, 7, 265-297.
292. Hovaguimian, T., Grab, B. & Stuckelberger, A. (1988). Psychosocial problems and the health of the elderly with special reference to social isolation. *Danish Medical Bulletin: Journal of the Health Sciences Gerontology*, 6, 2-7.
293. Jerrome, D. (1991). Loneliness: possibilities for intervention. *Journal of Aging Studies*, 5, 195-208.
294. Alber, J., Delhey, J., Keck, W., Nauenburg, R., Fahey, T., Maître, B., et al. (2004). *Quality of life in Europe: First European quality of life survey 2003*. European Foundation for the Improvement of Living and Working Conditions. Dublin, Ireland.
295. Noll, H.H. (2007). Monitoring the quality of life of the elderly in European Societies. A social indicators approach. In B. Marin & A. Zaidi (Eds.). *Mainstreaming ageing. Indicators to monitor sustainable policies*. England: Ashgate.
296. Anderson, R., Mikuliš, B., Vermeylen, G., Lyly-Yrjanainen, M., & Zigante, V. (2009). *Second European quality of life survey overview*. European Foundation for the Improvement of Living and Working Conditions. Dublin, Ireland.
297. Bond, J.L., & L. Corner, L. (2004). *Quality of life and older people*. Buckingham: Open University Press.
298. Avendano, M. (2009). Educational level and changes in health across Europe: longitudinal results from SHARE. *Journal of European Social Policy*, 19, 301-316.

299. Bowles, S., Durlauf, S.N., & Hoff, K. (Eds.). (2006). *Poverty traps*. Princeton and Oxford: Princeton University Press.
300. Drever, F., & Whitehead M. (Eds.) (1997). *Health inequalities. Decennial supplement*. London: Stationery Office. (National statistics series DS No 15.).
301. Marmot, M., & Wilkinson, R. (Eds.). (2006). *Social Determinants of Health*, 2nd Edition. Oxford: Oxford University Press.
302. Iverson, A., Dyson, C., Smith, N., Greenberg, N., Walwyn, R., Unwin, C., et al. (2005). 'Goodbye and good luck': The mental health needs and treatment experiences of British ex-service personnel. *British Journal of Psychiatry*, *186*, 480–486.
303. Gretchen A. Brenes, G.A. (2007). Anxiety, Depression, and Quality of Life in Primary Care Patients. *Journal of Clinical Psychiatry*, *9*, 437–443.
304. Gallo, J.J., & Lebowitz, B.D. (1999). The epidemiology of common late-life mental disorders in the community: themes for the new century. *Psychiatric Services*, *50*, 1158–1166.
305. Hornquist, J.O. (1990). Quality of life: concept and assessment. *Scandinavian Journal of Social Medicine*, *18*, 69-79.
306. Montano, C.B. (1999). Primary care issues related to the treatment of depression in elderly patients. *Journal of Clinical Psychiatry*, *60*, 45-51.

Published by Lithuanian University of Health Sciences Press.

2010 12 20. 8,0 spaudos l. Tiražas 1000 egzempliorių. Užsakymas 446.

Išleido ir spausdino LSMU Spaudos namai,
Spaustuvininkų g. 4, 44307 Kaunas.