**Intimate partner violence and its association with physical and mental health symptoms among older women in Germany**

# Abstract

Background:

Intimate partner violence is a commonly acknowledged health-care issue. While numerous studies established the health implications of physical and/or sexual intimate partner violence among women of reproductive age, the evidence is scarce for older women and for other forms of intimate partner violence. This study therefore investigates the prevalence of intimate partner violence in its different forms and its association with physical and mental health symptoms of older women, using women of reproductive age as a reference group.

Methods:

This study is a cross-sectional study, utilizing data from a national representative survey of 10264 German women aged 16 to 86.

Results:

Rates of physical and sexual intimate partner violence in the last year decreased from eight to three and one percent among women aged 16 to 49, 50 to 65 and 66 to 86 years respectively. The prevalence of emotional and economic abuse and controlling behaviour by partners remained nearly the same. All forms of intimate partner violence had significant associations with women’s health symptoms, such as gastrointestinal, psychosomatic and psychological symptoms and pelvic problems. Controlling behaviour was most consistently associated with most health symptoms.

Conclusion:

Health and care professionals who screen women for intimate partner violence should therefore consider incorporating questions about controlling behaviour as well, since this form of violence is not only frequent but also has multiple health outcomes among women across all ages.

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# Introduction

Intimate partner violence, which encompasses physical, sexual and increasingly psychological and economic violence as well as controlling behaviour by an intimate partner, is a commonly acknowledged health-care issue ([García-Moreno and Stöckl 2009](#_ENREF_12)). Gold standard methods to measure intimate partner violence are to ask respondents direct questions about their experience of behaviourally-specific acts of violence by a current or former partner, ranging from whether they have been hit, slapped to strangled or threatened with a weapon ([Devries et al. 2013](#_ENREF_6)). Agreements on definitions and measurement standards are still missing for other forms of abuse, such as emotional abuse, which includes being humiliated, insulted, intimidated or threatened, economic abuse and controlling behaviours by a partner, which includes not being allowed to see friends or family, despite the acknowledgement that they also impact the health of individuals ([Hegarty et al. 2013](#_ENREF_14), [Jewkes 2010](#_ENREF_16)).

The lifetime prevalence of physical and sexual violence by intimate partners worldwide was found to range from 15 percent to 71 percent and the last year prevalence ranged between four and 54 percent ([Garcia-Moreno et al. 2005](#_ENREF_11)). Studies in Europe have found prevalence rates between 20 and 27 percent and last year prevalence rates between six to ten percent([Nerøien and Schei 2008a](#_ENREF_24), [Hagemann-White 2001](#_ENREF_13), [Papadakaki et al. 2009](#_ENREF_27), [Stöckl et al. 2011](#_ENREF_34), [Zorrilla et al. 2010a](#_ENREF_40)). There is an assumption that the prevalence of physical and sexual intimate partner violence decreases with women’s increased age ([Band-Winterstein and Eisikovits 2009](#_ENREF_1)). This assumption is mainly based on a limited number of studies investigating the prevalence of physical or sexual intimate partner violence among older women and the general criminological theory that levels of criminal behaviour decrease with age ([Sampson and Laub 1995](#_ENREF_31)). Most studies investigating intimate partner violence among older women that also examine the prevalence and impact of emotional or economic abuse, stalking and controlling behaviour have found that these forms of violence are argued to be more frequent among older women ([Weeks and LeBlanc 2011](#_ENREF_36), [Zink et al. 2006](#_ENREF_39)) than those forms that are perhaps perceived as constituting more ‘traditional’ forms of intimate partner violence. It has also been contended that these forms of violence are perceived as more serious and harmful with increasing age as their cumulative effect over the years decreases women’s levels of tolerance of and capacity to cope with them ([Band-Winterstein and Eisikovits 2009](#_ENREF_1)).

There is clear evidence of the short and long-term health effects of intimate partner violence on women, including physical health outcomes such as having difficulty walking, difficulty with daily activities, pain, memory loss, dizziness, and vaginal discharge in the previous 4 weeks and mental health outcomes such as significantly more emotional distress, suicidal thoughts, and suicidal attempts, than non-abused women ([Ellsberg et al. 2008](#_ENREF_7), [Howard et al. 2010](#_ENREF_15), [Hegarty et al. 2013](#_ENREF_14), [Lacey et al. 2013](#_ENREF_17)). Evidence from the field of psychoneuroimmunology highlights the connection between stressful disturbances and social stress created by intimate partner violence and physiological consequences, which can impair the physical health of women ([Woods 2005](#_ENREF_37)). Studies supporting this claim found associations between intimate partner violence and chronic pain ([Wuest et al. 2008](#_ENREF_38)), immune functioning and control ([Garcia-Linares et al. 2004](#_ENREF_10), [Constantino et al. 2000](#_ENREF_5)) and inflammation ([Newton et al. 2011](#_ENREF_26)). Both direct and indirect pathways can link intimate partner violence with these adverse health outcomes; directly through injuries resulting from the violent acts, and indirectly through increased stress, reduced mobility and limited access to resources and health care. Sustained and acute elevated stress levels, a known immediate and long-term consequence of intimate partner violence, for example, have been linked to cardiovascular disease, hypertension, gastrointestinal disorders and chronic pain ([Miller 1998](#_ENREF_20), [Beydoun et al. 2012](#_ENREF_2)). Another indirect pathway is that some women also try to manage the stress and trauma caused by intimate partner violence through the use of alcohol, prescription medication, tobacco or other drugs ([Smith et al. 2012](#_ENREF_32), [Stene et al. 2013](#_ENREF_33)).

Although the evidence on the effects of intimate partner violence among older women is still limited, some general observations can be drawn. As amongst women below the age of 50, the health impacts of intimate partner violence among older women are also both physical and psychological ([Mouton 2003](#_ENREF_21), [Fisher et al. 2011a](#_ENREF_8)). They include trauma related injuries and physical conditions such as gastrointestinal disorders, genitor-urinary and muscular-skeletal disorders ([McGarry et al. 2011](#_ENREF_19)). For example, Mouton et al’s study ([2003](#_ENREF_21)) of 1245 community dwelling women aged 50-79 found increased rates of poorer mental health among older women who experienced intimate partner violence. Likewise the five country European study on Abuse and Violence against Older Women (AVOW) undertaken through the EU Daphne Programme found a significant association between abuse, violence and poor mental health for older women, although this study was not exclusively about intimate partner violence in later life ([Luoma et al. 2011](#_ENREF_18)). In addition, older women are affected by intimate partner homicide to a greater degree than older men, as a recent study of intimate partner homicides among couples aged 65 or older in Canada found ([Bourget et al. 2010](#_ENREF_4)).

Despite the acknowledgement that intimate partner violence, especially emotional and economic abuse or controlling behaviours remain a problem for many older women ([McGarry et al. 2011](#_ENREF_19), [Weeks and LeBlanc 2011](#_ENREF_36)), few studies have investigated its prevalence and its association with physical and mental health difficulties among women above the age of 49 using national representative survey data ([Piispa 2004](#_ENREF_29), [Nerøien and Schei 2008b](#_ENREF_25), [Zorrilla et al. 2010b](#_ENREF_41)). While there is consensus that older women who report intimate partner violence also have poorer physical and psychological health, it remains unclear if the violence affects them more or less. On the one hand it is assumed that the impact that intimate partner violence has on women’s health decreases with women’s increased age, as levels of physical and sexual violence decrease and women might have devised strategies to deal with the negative impact of violence over time ([McGarry et al. 2011](#_ENREF_19)). On the other hand, it is argued that the health of women experiencing intimate partner violence might be worse for older women as they may need to deal with the cumulative effects of long-term intimate partner violence ([Penhale and Porritt 2010](#_ENREF_28)) and because they are more used to internalize the problem ([Romito et al. 2005](#_ENREF_30), [Fisher et al. 2011b](#_ENREF_9)). Furthermore, older women appear to be less likely to seek outside help to deal with intimate partner violence. They are also less likely to end the violence by leaving their abusive partner compared to younger women due to economic dependencies and emotional attachment to the place they may have lived in for their whole lives and where they have sustained social networks ([Nägele et al. 2010](#_ENREF_23)).

This article seeks to build on the acknowledgement of the existence of multiple forms of abuse in old age. It addresses the lack of national representative data on violence against older women by using the German national representative survey data on violence against women to explore the prevalence of different forms of intimate partner violence and their association with women’s health symptoms, predominantly among women aged 50 to 65, and women aged 66 to 86 years.

# Methods

## Survey

The data employed in this analysis was derived from the national representative study “Health, Well-Being and Personal Safety of Women in Germany”. The Federal Ministry for Family Affairs, Senior Citizens, Women and Youth commissioned this cross-sectional survey, which was conducted by the Centre for Women's Studies at the University of Bielefeld in cooperation with the Institute for Applied Social Sciences in 2003 ([Müller and Schröttle 2004](#_ENREF_22)).

For this study, women were randomly selected from registration lists from 250 randomly chosen communities throughout Germany. All selected women received a personalized letter about the study, which contained information on the study, details of the randomized selection process, data privacy laws and the voluntary nature of participation in the survey. Specially trained female interviewers experienced in conducting surveys on sensitive issues contacted the women upon receipt of the letters to arrange an interview. The interviewers provided all participating women with information on local and national violence services after completion of the interview. Women received a free telephone calling card for their participation (Müller and Schröttle 2003). A total of 10,264 women aged between 16 and 86 years from across Germany participated in the survey ([Müller and Schröttle 2004](#_ENREF_22)).

The interview process started with a face-to-face interview about women’s personal and social environment, feelings of safety, health and their experiences of violence and abuse by any perpetrator. In addition, women were asked to provide information on their experiences of psychological, physical and sexual partner violence through a written questionnaire, which they were asked to complete on their own following the face to face interview ([Müller and Schröttle 2004](#_ENREF_22)). While the face-to-face interviews lasted on average 64 minutes, the written questionnaire was completed in an average of 18 minutes. The overall response rate was 52 percent. When compared to a survey with mandatory participation, younger and older women, as well as women with low educational degrees were underrepresented, while women from urban areas and the former East Germany were overrepresented. These imbalances were addressed with weights provided by the available Micro Census. Further details on the study have been described elsewhere ([Stöckl et al. 2012](#_ENREF_35), [Müller and Schröttle 2004](#_ENREF_22)).

**Sample**

This study focused on women aged 16 to 49, 50 to 65 and 66 to 86 years old who were currently in a relationship. Two age categories were chosen to acknowledge the heterogeneity among older women. The first category are women aged 50 to 65, as this age group is likely to still be part of the labour market and therefore enjoying a certain financial independence that might increase their abilities to leave an abusive partner. Also they are more likely to enjoy a better health overall than women in the older category. Women aged 66 to 86 comprise those who are above retirement age and might therefore be more dependent on their partner’s income and pension to consider leaving the relationship. In addition, they could face increased levels of declining physical abilities. While it would have been preferable to conduct a more nuanced analysis with narrower age categories, this was not possible due to the small number of women aged 65 or older who participated in the study and the resulting impact this would have had on the significance of the findings. Nevertheless, using two categories is still an improvement on existing quantitative literature on intimate partner violence among older women, that rarely distinguishes women above the reproductive age ([Piispa 2004](#_ENREF_29), [Fisher et al. 2011a](#_ENREF_8)). Women aged 16 to 49 were not analysed in narrower categories as they mainly served as a comparison group for older women, given that the majority of existing studies on the health effects of intimate partner violence focused on women of reproductive age.

## Measurement of intimate partner abuse

This study measured physical and or sexual intimate partner violence, emotional abuse, economic abuse and controlling behaviour. The measurement of physical intimate partner violence was based on a modified version of the revised Conflict Tactics Scale (Straus, Hamby et al. 1996), which inquired about specific acts of physical violence. Questions on sexual violence by an intimate partner were based on five different acts of sexual violence by an intimate partner. In comparison to the questions on physical violence, they were based on a more narrow definition of explicitly criminal forms of sexual violence. Women who reported experiencing an item of physical or sexual violence by their partner once or more than once in the last year were considered to have experienced physical or sexual intimate partner violence.

Measurements for economic abuse, emotional abuse and controlling behaviour were derived from a list of 33 questions (for details on question contents, see Table 2). These covered different types of emotionally or economically abusive or controlling behaviours that women experience by their current partner. Women could answer if this behaviour by their partner was common or not applicable. Different to the questions on physical and sexual intimate partner violence, the 33 questions were asked in the present tense as they related to the current behaviour of women’s current partners. It is assumed that these behaviours are likely to have occurred in the last year.

As there is no standardized definition or measurement of economic abuse, emotional intimate partner abuse or controlling behaviour, a principle component factor analysis was conducted to identify the latent forms of abuse. All 33 questions loaded clearly to a category that is commonly understood as emotional abuse, economic abuse or controlling behaviour.

All women who answered positively to at least one of the questions on physical and sexual violence in the last year or emotional abuse, controlling behaviour or economic abuse by their current partner were considered to have experienced partner violence by a current partner. Intimate partner violence by a prior or deceased partner could not be considered as questions on emotional abuse, controlling behaviour and economic abuse were only asked in relation to women’s current partners. The focus on the last year’s and current experiences of intimate partner violence may impact the findings since it is known that women’s experience of intimate partner violence can still affect their physical and mental health even if the relationship has ended and moreover that these impacts may endure over lengthy periods ([Bonomi et al. 2006](#_ENREF_3), [Ellsberg et al. 2008](#_ENREF_7)). However, by measuring multiple forms of abuse and not solely focusing on physical and sexual violence this bias might be reduced, as existing research on intimate partner violence among older women suggests that abused older women often report long histories of abuse as one form of abuse is often followed by another ([Nägele et al. 2010](#_ENREF_23)).

**Measurement of women’s physical and mental health**

The survey instrument measured women’s current physical and psychological health, their history of injuries and weight problems through 50 questions, which were not based on standardized measures. To reduce the existing information on women’s health to workable and objective measurement a principle component factor analysis was conducted. The resulting health indicators were further adjusted following a discussion with a medical doctor to ensure that the derived categories resonated with existing health assessment categories. Women were considered to be positive for one of the health indicators if they reported experiencing one of symptoms in the respective category often, frequently or rarely. The gastrointestinal syndromes in the last 12 months captured digestion problems, nausea and eating disorders; the psychosomatic symptoms in the last 12 months covered feeling powerless in arms and legs, numbness and thrombosis problems, shaking and nervous twitching, cramps and paralysis, heart and circulation illness, strong sweating, dizziness, low blood pressure, breathlessness, lost voice and chronic throat problems and the pelvic problems in the last 12 months included pain in the abdomen, pain or infections in intimate areas, sexual problems, menstrual pain and menstruation being too strong, weak or irregular. The category mild psychological problems in the last 12 months included stress, concentration issues, feeling weak and tired, sleeping problems, nervousness, feeling depressed, lack of motivation and feeling overwhelmed by everything, whilst strong psychological problems in the last 12 months captured feeling fearful or worthless, wanting to die or hurt herself as well as being a shopaholic. The category allergy only contains one question asking whether the woman suffered from allergies in the last 12 month and the category weight issues the question of whether the woman had problems to maintain her weight. In addition, we also analysed a question on the type of injuries women obtained from their experience of physical and/or sexual intimate partner violence in the descriptive analysis.

## Statistical analysis

This analysis investigated the prevalence of different forms of violence and its associations with physical and mental health symptoms for women aged 16 to 49, 50 to 65 and 66 to 86 years old who were currently in a relationship.

The analysis is based on descriptive statistics on the prevalence of different forms of intimate partner violence and the prevalence of injuries among women who experienced physical and/or sexual intimate partner violence among women in the three different age groups.Associations between health indicators and different forms of violence were explored by cross tabulations, chi square statistics and adjusted odds ratios using multivariate logistic regressions. The dependent variables of the logistic regressions were the health symptoms created through the factor analysis. Physical and/or sexual intimate partner violence, economic abuse, emotional abuse and controlling behaviour were the independent variables. In the final regression the independent variable was the experience of any form of abuse. Adjusting variables included women’s occupational training, marital status, number of children, whether they live in an anonymous versus non-anonymous neighbourhood or in an urban versus rural area. Data were missing for less than five percent of respondents for the physical and mental health variables, and women with missing data were excluded from analyses with that variable. The amount of missing information for emotional abuse, controlling behaviour and economic abuse by a current partner is nine percent among women aged 16 to 49, 11 percent among women aged 50 to 65 and 16 percent among women above the age of 66. Reasons for missing information are that the women either did not participate in the written questionnaire where the questions on current partner’s behaviours were posted or because they did not answer these specific questions. Reasons for non-participation or item non-response were mainly health related, such as tiredness, visual impairment or other disabilities or illnesses. In addition to that, interviews with women above the age of 55 were more often interrupted by a partner and therefore had to be terminated early ([Müller and Schröttle 2004](#_ENREF_22)).

Statistical significance is considered at the 5% level. All data were analyzed using STATA 12. As this study is based on cross-sectional data, no interpretation is possible regarding causality and temporality. The low number of women aged 66 to 86 who reported experiencing physical and sexual violence did not allow conducting a univariate or multivariate analysis among this group, despite the large overall sample size.

# Results

In total, 4448 women aged 16 to 49, 2030 women aged 50 to 65 and 779 women aged 66 to 86 participated in the survey and were currently in a relationship. Younger women were more likely to have high school or university education (16-49: 25%, 50-65: 11% and 66-86: 6%), to have a partner with high school or university education (15-49: 32%, 50-65: 25% and 66-86: 17%), more likely to be employed (15-49: 67%, 50-65: 42% and 66-86: 3%), have a partner who was employed (15-49: 86%, 50-65: 43% and 66-86: 2%) and were more likely to be of a nationality other than German than older women (15-49: 9%, 50-65: 4% and 66-86: 2%) or to have partners of a different nationality (15-49: 10%, 50-65: 4% and 66-86: 1%). Older women were more likely to live with their current partner (15-49: 83%, 50-65: 96% and 66-86: 96%). The older women became, the less likely it was that they were living in the same house as their children (15-49: 66%, 50-65: 23% and 66-86: 6%). Additional socio-demographic factors used in the multivariate analysis are outlined in Table 1.

## Prevalence of different forms of abuse

This study investigated four different forms of intimate partner violence – physical and sexual violence, emotional abuse, controlling behaviour and economic abuse. As seen in Table 2 the prevalence rates of these forms of violence were nearly the same across all the age groups, except for physical and/or sexual intimate partner violence in the last year. Physical and sexual intimate partner violence in the last year decreased from eight percent among women aged 16 to 49 to three percent among women aged 50 to 65 and further down to one percent among women aged 66 to 86. Of the women aged 16 to 49, 33 percent experienced all forms of abuse by their current partner, among the women aged 50 to 65 the prevalence of all forms was 30 percent and among women above the age of 65 the similar prevalence rate was 27 percent.

A detailed analysis of the distribution of the different forms of violence found that the most frequent form of intimate partner violence that women across all age groups experienced if they reported any form of abuse by their partner was controlling behaviour without the presence of other forms of abuse. 28 percent of all women aged 16 to 49, 29 percent of all women aged 50 to 65 and 33 percent of all women aged 66 to 86 who reported any form of violence reporting only experience of controlling behaviour. Experiencing a combination of all four forms of violence was only stated by three (15-49 years old) and two percent (50 to 65 years old). None of the women aged 66 to 86 years reported experiencing all four forms of intimate partner violence.

Among those women who reported any form of abuse, economic abuse only was the second most prevalent form of abuse, at 17% among women aged 50 years or older, compared to a slightly lower figure of 13% for women younger than 49 (and 15% for women between 66 and 86 years). Whilst women younger than 65 years only reported emotional abuse at a rate of 13%, women older than 66 reported emotional abuse only in 12% of situations. In addition, more older women (66 years plus) experienced emotional abuse and controlling behaviour but not controlling behaviour or physical and sexual intimate partner violence than younger women (12% as compared to 11% and 9% respectively). They were also more likely to experience a combination of emotional abuse, economic abuse and controlling behaviour but not physical and sexual violence (11% compared to 7 and 8% for both the other groups).

Hematoma and blue spots as a result of physical and/or sexual intimate partner violence were reported among 58% of the women aged 15 to 49, 57% of the women aged 50 to 65 and 33 percent of the women aged 66 to 86. Women aged 66 to 86 were significantly more likely with 17% to report a torn muscle or a dislocated joint and with 20% to report a broken bone than women aged 15 to 49 (13% and 3% respectively) and women aged 50 to 65 (12% and 3% respectively) as a result of physical intimate partner violence.

## Associations with physical and mental health symptoms

Tables 3 and 4 both show how each form of intimate partner violence is associated with different health symptoms across the different age groups. The experience of physical and sexual intimate partner violence in the last year was significantly associated with all health symptoms investigated among women aged 16 to 49 and nearly all among women aged 50 to 65 (Table 2). For women aged 66 to 86 the experience of physical and sexual violence by their current partner could not be analysed as only six women reported physical and sexual intimate partner violence in the last year. . Further, Table 3 also shows that emotional abuse was also strongly associated with nearly all health symptoms for women aged 16 to 49 and women aged 50 to 65. However, women above the age of 65 who experienced emotional abuse by their partner were significantly more likely to report gastrointestinal syndromes and strong psychological problems in the last year and to have reported problems with their weight.

The experience of controlling behaviour was associated with health symptoms for women across all age groups, as can be seen in Table 4. Women across all age groups who had a partner who was controlling all had higher likelihoods of experiencing gastrointestinal syndromes, psychosomatic symptoms, pelvic problems and strong psychological problems. Controlling behaviour was further associated with allergies and weight problems among women aged 50 to 65, mild psychological problems and weight problems among women aged 16 to 49 and mild psychological problems among women above the age of 65. Economic abuse showed fewer associations with health symptoms than other forms of intimate partner violence investigated in this study. As illustrated in Table 4, economic abuse showed most associations with health symptoms among women aged 50 to 65, being associated with increased gastrointestinal and psychosomatic syndromes, allergy and hair loss and weight problems. Women below the age of 50 who experienced economic abuse by their partner were more likely to report pelvic problems, and weight problems, while women above the age of 65 reported more mild psychological problems from such abuse. Women across all ages who experienced economic abuse by their partner were more likely to have strong psychological problems.

The associations between experiencing any form of violence with different health symptoms, as outlined in detail in the previous Tables, are summarized in Table 5. Experiencing any form of intimate partner violence was associated with nearly all health symptoms among women of all age groups. .

# Discussion

To the knowledge of the authors, this is the first study to investigate the prevalence of different forms of intimate partner violence among women aged 15 to 49, 50 to 65 and 66 to 86 and to compare the health symptoms associated with those different forms of violence across those different age groups, using nationally representative survey data. In agreement with previous findings of smaller scale studies (Straka and Montminy 2006; Zink, Jacobson et al. 2006), there was a decrease in the prevalence of physical and sexual intimate partner violence with women’s increased age. At the same time, other forms of intimate partner violence remained the same across different age groups, and whilst the most prevalent form of abuse indicated across all age groups was controlling behaviour, a slight increase was found in the prevalence of economic abuse among older women. While women below the age of 65 were more likely to report hematoma and blue spots as a result of physical and/or sexual intimate partner violence, women above the age of 65 were more likely to report broken bones or dislocated joints. Furthermore, intimate partner violence, both in the generally acknowledged form of physical and sexual violence, as well in the non physical forms of emotional and economic abuse and controlling behaviour were all associated with increased negative health symptoms of women. Women below the age of 50 showed stronger associations with health symptoms than older women. This might point toward methodological reasons and limitations of the study as well as actual differences.

Methodological reasons refer to the lower reporting rates of intimate partner violence found among women above the age of 65 and might be related to recall and social desirability bias, or a lack of recognition or identification of the violent behaviour as such (Stöckl et al. 2012). Older women could be more likely to underreport intimate partner violence since their experiences of violence in their current relationships may have occurred more than 20 years ago if in a long-standing relationship. This might make them less likely to report a violent event than a woman who experienced violence only a few years ago (Walby 2005). Additionally, for more recent incidents of abuse, such experiences may have been normalised and not perceived as problematic but rather seen as part of everyday life within the relationship. Social desirability biases refer to older women being less willing or able to report violence by their current partner due to their socialization, upbringing and feelings of stigma and shame as well as their current economic and social status or isolation (Rennison and Rand 2003). The lack of recognition of violent behaviour as violence refers to the belief that violence has to be physical or sexual (Fisher, Zink et al. 2011) and the connotation that violence involves some overt act that results in an injury. A further limitation that was noted in this study is that it was more difficult for researchers to conduct interviews with older women in complete privacy, as their partners, their children, or their caretakers were often present for at least some part of the interview ([Müller and Schröttle 2004](#_ENREF_22)). A lack of privacy is known to strongly affect the reporting of intimate partner violence since it might put women at risk of further violence or simply ignores their rights and the likely perceived need to keep this information private from their caretakers, or anyone else (Walby 2005; Fisher, Zink et al. 2011).

Other factors that might have influenced the reporting of violence across all age groups as well as the conclusions that can be drawn from this study refer to additional and further limitations of this study. For example, the response rate of this survey was 52 percent and non-participation was linked to women’s age, with very old women being less likely to participate and more often requiring assistance with completion of the written questionnaire due to health reasons or even refusing to complete the self-completion questionnaire. Furthermore the study, which is cross-sectional by design, cannot establish causality. It is therefore not known if the investigated health conditions are a result of the violence experienced or were already pre-existing. Also, the low reporting rate amongst women aged 66 to 86 years did not permit the exploration of multivariate associations.

The lower reporting rate of physical and or sexual partner violence and lower number of health symptoms could also be a consequence of actual differences across the age groups. For the few health associations among the oldest age group relating to physical and sexual intimate partner violence, two explanations are that physical and sexual violence might only have occurred early on in the relationship and had since then been replaced by other forms of abuse. In addition, it is possible that now in later life the aging partners themselves were likely to have reduced strength to commit acts of physical and sexual abuse. However, the strong associations seen with both mild and strong psychological problems show that the pervasive atmosphere of violence still strongly affects women’s mental wellbeing. This responds to the category found in the qualitative study on intimate partner violence among older couples: ‘violence is in the air’. It describes couples where there are occasional outbursts of violence, which are not too frequent, but where abusive partners still maintain an atmosphere of fear and control, with the ever present feeling of imminent danger for the woman herself (Band-Winterstein and Eisikovits 2009). Long-standing serious psychological problems may of course have major impacts on the quality of life and wellbeing of older women, but it may be less likely that an older woman in the 66+ years groups would be able to leave the situation and establish herself in alternative accommodation elsewhere. Further, a previous study, using the same dataset to investigate the risk factors for intimate partner violence among older women found that women above the age of 65 were more likely to experience physical and or sexually intimate partner violence if they had high levels of education (Stöckl et al. 2012). High levels of education are also known to be associated with better health, which could mean that women above the age of 65 who had a higher level of educational attainment were more likely to experience intimate partner violence but also more likely to seek appropriate health care or to have better baseline levels of general health.

The importance of other forms of violence beyond physical and sexual violence for women’s health is shown across all age groups, with controlling behaviour having strong associations across several health symptoms. The health consequences of emotional and economic abuse as well as controlling behaviour all showed that it significantly impacts women’s psychological well-being, with many health consequences either being clearly psychological problems, or health consequences that are known symptoms of psychological stress, such as gastrointestinal, psychosomatic or pelvic problems or eating disorders.

**Conclusion**

Overall, our study has shown that intimate partner violence in its different forms is still a prevalent issue with important health consequences for women above reproductive age. Health and care professionals who screen women for intimate partner violence should consider incorporating questions on controlling behaviour as well, since this form of violence is not only frequent but has multiple health outcomes, as this study showed. Asking women about any controlling behaviour of their partner might be more comfortable for the health care or service care provider than to ask about physical and sexual violence. It might also be more acceptable for older women to discuss these questions, since these forms of abuse are often not perceived as violence and could therefore be perceived as less private and less controversial to talk about.

Furthermore, specialized violence services or health care or caring professionals who offer assistance to women who experience intimate partner violence must take the experiences and needs of older women into account as well. This can mean, for example, a need to acknowledge the generational values held by older women who experience intimate partner violence and to understand how those values might influence women’s decision making processes (Tetterton and Farnsworth 2011). One example of this would be decisions to either leave or stay in the abusive relationship, which are affected by views about the enduring nature and importance of marriage as an institution. At the same time, given that most older women have lived in their abusive relationships for a long time, it is important to determine what the woman has already done in the past to resolve or cope with the occurrence of intimate partner violence. In addition, it is important to establish how effective these previous strategies were (Tetterton and Farnsworth 2011) and what might need to be done to support the women to continue to manage such occurrences in the future. It is also necessary to acknowledge that older women may not be aware about available sources of support and/or services. This is perhaps particularly likely if the woman does not associate emotional or economic abuse and controlling behaviour as part of a spectrum of violence and therefore does not recognise that provision of such services might be applicable to them or that any assistance might be available to help and support women who live in and endure such situations.

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| Table 1: Women’s socio-demographic characteristics according to their age groups   |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | |  | 15-49 |  | 50-65 |  | 66-86 |  | |  | N | % | N | % | N | % | | Women's occupational training level |  |  |  |  |  |  | | No occupational training | 523 | 12% | 305 | 15% | 246 | 32% | | Occupational training | 3925 | 88% | 1725 | 85% | 533 | 68% | | Relationship status |  |  |  |  |  |  | | Married or widowed | 3016 | 68% | 1890 | 93% | 759 | 98% | | Single | 1138 | 26% | 24 | 1% | 5 | 1% | | Divorced/separated | 285 | 6% | 114 | 6% | 14 | 2% | | Number of children |  |  |  |  |  |  | | No child | 1214 | 27% | 185 | 9% | 64 | 8% | | 1-2 children | 2545 | 57% | 1359 | 67% | 467 | 60% | | 3-12 children | 685 | 15% | 485 | 24% | 247 | 32% | | Women's perception of their neighborhood |  |  |  |  |  |  | | Good neighbourhood | 2496 | 57% | 1245 | 62% | 472 | 61% | | Anonymous | 1906 | 43% | 774 | 38% | 304 | 39% | | Woman lives in a rural or urban area |  |  |  |  |  |  | | Urban | 3034 | 68% | 1370 | 67% | 508 | 65% | | Rural | 1414 | 32% | 660 | 33% | 271 | 35% | |  | | |  |  |  |  |
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Table 2: Prevalence of different forms of abuse according to women’s age

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | 16-49 | | 50-65 | | 66-86 | |
|  | N | % | N | % | N | % |
| Physical or sexual violence, or both in the last year  (Partner pushed, lightly slapped, bit or scratched her, twisted her arm, kicked, shoved, hardly slapped or threw something at her, hit her with an object, seriously threatened to assault or kill her, hit her with a fist, beat her up, strangled, scalded or burned, threatened or injured her with a weapon, physically assault her in another way and tried to or actually forced her to sexual intercourse) | 374 | 8% | 62 | 3% | 6 | 1% |
| Emotional abuse in women’s current relationship  (Partner says she is ridiculous, stupid or incapable, ignores her, does not answer her questions, pretends that she is not there, intimidates her when she has a different opinion or with his angry, unpredictable and aggressive behavior, blames her for everything and makes her feel guilty, scolds her, insults her or purposefully says things to hurt or or puts her down in front of others) | 514 | 13% | 236 | 13% | 83 | 13% |
| Controlling behavior in women’s current relationship  (Partner is jealous and prevents contacts with other men or women, makes decisions that concern me or both of us on his own, controls exactly where I go and with whom what I do and when I come back, controls my post, my phone calls and my emails, prevents me meeting friends acquaintances or relatives and decides what I should or should not do) | 868 | 21% | 378 | 21% | 137 | 21% |
| Economic abuse in women’s current relationship  (Partner controls exactly how much money I spend on what, makes me feel that I am financially dependent on him and does not let me decide about money or things I want to buy by myself) | 497 | 12% | 253 | 14% | 88 | 13% |
| Any form of abuse behavior | 1463 | 33% | 617 | 30% | 213 | 27% |

Table 3: Health symptoms associated with physical and/or sexual violence and emotional abuse by an intimate partner across different age groups, adjusted for women’s occupational training, marital status, number of children, neighbourhood quality and urban or rural area

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Sexual and physical violence | | | | | | Emotional abuse | | | | | |
|  | 16-49 | | 50-65 | | 66-86 | | 16-49 | | 50-65 | | 66-86 | |
|  | % | OR (95%CI) | % | OR (95%CI) | % | OR (95%CI) | % | OR (95%CI) | % | OR (95%CI) | % | OR (95%CI) |
| Gastrointestinal syndromes in the last year |  | **2.00\*\*\*** |  | 1.06 |  | - |  | **1.53\*\*\*** |  | **1.82\*\*\*** |  | **2.87\*\*\*** |
|  | **72** | **[1.49,2.69]** | **50** | [0.60,1.86] | 74 |  | **65** | **[1.21,1.93]** | **61** | **[1.32,2.51]** | **66** | **[1.65,4.99]** |
| Psychosomatic symptoms in the last year |  | **2.34\*\*\*** |  | 2.09 |  | - |  | **2.18\*\*\*** |  | **2.56\*\*** |  | 1.54 |
|  | **88** | **[1.59,2.69]** | 92 | [0.84,5.18] | 100 | - | **85** | **[1.65,2.92]** | **93** | **[1.41,4.65]** | 94 | [0.54,4.44] |
| Pelvic problems in the last year |  | **2.13\*\*\*** |  | **2.55\*\*\*** |  | - |  | **2.02\*\*\*** |  | **1.82\*\*\*** |  | 1.72 |
|  | **77** | **[1.56,2.89]** | **51** | **[1.43,4.53]** | 38 |  | **74** | **[1.58,2.58]** | **41** | **[1.30,2.54]** | 23 | [0.92,3.21] |
| Allergy in the last year |  | **1.46\*\*** |  | 1.48 |  | - |  | **1.29\*** |  | **1.69\*\*** |  | 1.22 |
|  | **58** | **[1.12,1.91]** | **4** | [0.81,2.68] | 52 |  | **55** | **[1.03,1.62]** | **46** | **[1.22,2.35]** | 39 | [0.68,2.19] |
| Mild psychological problems in the last year |  | **7.55\*\*** |  | 2.70 |  | - |  | **3.98\*\*** |  | **3.21\*** |  | 1 |
|  | **99** | **[1.91,29.80]** | **97** | [0.47,15.46] | 86 |  | **99** | **[1.62,9.76]** | **97** | **[1.33,7.73]** | 100 | [1.00,1.00] |
| Strong psychological problems in the last year |  | **2.28\*\*\*** |  | **3.24\*\*\*** |  | - |  | **2.96\*\*\*** |  | **2.45\*\*\*** |  | **2.53\*\*\*** |
|  | **60** | **[1.74,2.99]** | **59** | **[1.81,5.79]** | 60 |  | **61** | **[2.35,3.73]** | **48** | **[1.76,3.41]** | **43** | **[1.47,4.37]** |
| Problems with weight |  | **1.43\*\*** |  | 1.48 |  | **-** |  | **1.84\*\*\*** | **34** | **1.93\*\*\*** |  | **1.88\*** |
|  | **71** | **[1.09,1.86]** | **69** | [0.82,2.69] | 74 |  | **72** | **[1.46,2.31]** | **66** | **[1.39,2.68]** |  | **[1.10,3.20]** |

\* = p<0.05, \*\*= p<0.01 and \*\*\*=p<0.001

Table 4: Health symptoms associated with controlling behaviour and economic abuse by a partner across different age groups, adjusted for women’s occupational training, marital status, number of children, neighbourhood quality and urban or rural area

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Controlling behavior | | | | | | Economic abuse | | | | | |
|  | 16-49 | | 50-65 | | 66-86 | | 16-49 | | 50-65 | | 66-86 | |
|  | % | OR (95%CI) | % | OR (95%CI) | % | OR  (95%CI) | % | OR (95%CI) | % | OR (95%CI) | % | OR (95%CI) |
| Gastrointestinal syndromes in the last year |  | **1.33\*\*** |  | **1.41\*** | **49** | **1.54\*** |  | 1.18 |  | **1.75\*\*** |  | 1.62 |
| **61** | **[1.11,1.60]** | **55** | **[1.08,1.84]** | **51** | **[1.98,2.43]** | 59 | [0.94,1.48] | **60** | **[1.27,2.42]** | 54 | [0.93,2.80] |
| Psychosomatic symptoms in the last year |  | **1.52\*\*\*** |  | **1.71\*** |  | **3.65\*** |  | 0.96 |  | **2.05\*** |  | 2.60 |
| **80** | **[1.22,1.88]** | **90** | **[1.09,2.68]** | **97** | **[1.22,10.90]** | 74 | [0.74,1.24] | **91** | **[1.21,3.46]** | 96 | [0.84,8.06] |
| Pelvic problems in the last year |  | **1.48\*\*\*** |  | **1.78\*\*\*** |  | **1.86\*** |  | **1.32\*** |  | 1.34 |  | 1.66 |
|  | **68** | **[1.23,1.79]** | **38** | **[1.34,2.36]** | **22.** | **[1.06,3.28]** | **65** | **[1.05,1.67]** | 34. | [0.95,1.89] | 22 | [0.86,3.21] |
| Allergy in the last year |  | 1.18 |  | **1.43\*** |  | 0.94 |  | 0.89 |  | **1.51\*** |  | 1.14 |
|  | 51 | [0.98,1.41] | **42** | **[1.08,1.91]** | **28** | **[0.57,1.55]** | 45 | [0.70,1.12] | **43** | **[1.07,2.14]** | 34 | [0.62,2.11] |
| Mild psychological problems in the last year |  | **1.92\*** |  | 1.69 |  | **3.85\*** |  | 0.88 |  | 1.91 |  | **6.12\*** |
| **98** | **[1.01,3.64]** | 94 | [0.91,3.16] | **97** | **[1.24,12.00]** | 96 | [0.49,1.59] | 95 | [0.94,3.87] | 99 | **[1.55,24.85]** |
| Strong psychological problems in the last year |  | **1.87\*\*\*** | **60** | **1.92\*\*\*** |  | **2.78\*\*\*** |  | **1.90\*\*\*** |  | **1.63\*\*** |  | **2.53\*\*** |
| **50** | **[1.56,2.26]** | **40** | **[1.45,2.54]** | **42** | **[1.75,4.42]** | **51** | **[1.51,2.38]** | **38** | **[1.16,2.29]** | **43** | **[1.45,4.41]** |
| Problems to keep weight |  | **1.48\*\*** |  | **1.59\*\*\*** |  | 1.35 |  | **1.47\*\*\*** |  | **1.59\*\*** |  | 1.40 |
|  | **66** | **[1.23,1.7/]** | **60** | **[1.21,2.08]** | 48 | [0.85,2.13] | **64** | **[1.17,1.85]** | **63** | **[1.13,2.22]** | 46 | [0.80,2.45] |

\* = p<0.05, \*\*= p<0.01 and \*\*\*=p<0.001

Table 5: Health symptoms and their association with experiencing at least one form of intimate partner violence (physical, sexual, economic or psychological abuse or controlling behaviour), adjusted for women’s occupational training, marital status, number of children, neighbourhood quality and urban or rural area

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | 16-49 | | | 50-65 | | | 66-86 | | |
|  | All % | IPV % | OR (95%CI) | All % | IPV % | OR (95%CI) | All % | IPV % | OR (95%CI) |
| Gastrointestinal syndromes in the last year | 56 | **61** | **1.42\*\*\* [1.22,1.66]** | 49 | **54** | **1.41\*\* [1.12,1.77]** | 44 | **54** | **1.80\*\* [1.24,2.61]** |
| Psychosomatic symptoms in the last year | 74 | **79** | **1.42\*\*\* [1.19,1.69]** | 85 | **91** | **2.15\*\*\* [1.56,3.24]** | 91 | **97** | **3.66\*\* [1.62,8.25]** |
| Pelvic problems in the last year | 60 | **68** | **1.62\*\*\* [1.39,1.90]** | 28.9 | **36** | **1.65\*\*\* [1.29,2.10]** | 15 | **21** | **1.70\* [1.05,2.78]** |
| Allergy in the last year | 48 | **52** | **1.22\*\*\* [1.05,1.42]** | 35 | **40** | **1.43\*\*\* [1.12,1.84]** | 33 | 32 | 1.09 [0.72,1.67] |
| Mild psychological problems in the last year | 96 | **98** | **2.41\*\*\* [1.51,3.85]** | 92 | **95** | **1.86\* [1.13,3.07]** | 92 | **98** | **4.29\*\* [1.81,10.20]** |
| Strong psychological problems in the last year | 38 | **49** | **1.85\*\*\* [1.58,2.16]** | 30 | **38** | **1.74\*\*\* [1.37,2.22]** | 26 | **39** | **2.44\*\*\* [1.63,3.63]** |
| Problems to keep weight | 59 | **65** | **1.53\*\*\* [1.31,1.78]** | 55 | **62** | **1.52\*\*\* [1.21,1.92]** | 41 | **50** | **1.79\* [1.21,2.63]** |

\* = p<0.05, \*\*= p<0.01 and \*\*\*=p<0.001

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