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Violence victimisation—a watershed for young women's mental and physical health

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Purpose: The association between victimisation and adverse health in children is well established but few studies have addressed the effect of victimisation, especially multiple victimisations, in older adolescents and young adults. The aim of this study was to assess self-reported health in young women (15–22 years) victimised to one or more types of violence, compared with non-victimised. **Methods:** Young women visiting youth health centres in Sweden answered a questionnaire constructed from standardised instruments addressing violence victimisation (emotional, physical, sexual and family violence), socio-demographics, substance use and physical and mental health. Adjusted odds ratio (AOR) with 95% confidence interval (CI) and attributable risk (AR) were assessed. **Results:** Of 1051 women (73% of eligible women), 25% were lifetime victims of one type of violence and 31% of two or more types of violence. Sexual-minority young women were more victimised than heterosexual women. Violence victimisation increased the risk for adverse health outcomes, especially evident for those multiply victimised. Victims of two or more types of violence had AOR 11.8 (CI 6.9–20.1) for post-traumatic stress symptoms, 6.3 (CI 3.9–10.2) for anxiety symptoms and 10.8 (CI 5.2–22.5) for suicide ideation. The AR of victimisation accounted for 41% of post-traumatic stress symptoms, 30% of anxiety symptoms and 27% of suicide ideation. Stratified analyses showed that lower economic resources did not influence health negatively for non-victimised, whereas it multiplicatively reinforced ill-health when combined with violence victimisation. **Conclusion:** Violence victimisation, and particularly multiple victimisations, was strongly associated with mental ill-health in young women, especially evident in those with low economic resources.

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Introduction

The health of young people is a global health priority.¹ Among young people mental ill-health causes the highest number of disability-adjusted life years.¹ In Sweden, a trend of increasing inpatient psychiatric care among youth is reported, with no decrease in suicide, as among adults.²

Transition from adolescence into adulthood is a vulnerable time of life. The onset of mental disorders often occurs during this period, potentially effecting life-course adversities.^{1,3,4} It is also a period in life when the risk for violence victimisation is high.^{5,6} Association between violence victimisation and adverse health outcomes is well-documented for a number of victimisations such as bullying and peer victimisation,^{7–9} domestic violence,¹⁰ physical abuse¹¹ and sexual abuse and dating violence.^{12,13} Possible outcomes, including depression,^{6,8,14} anxiety,¹⁵ post-traumatic stress disorders (PTSD),^{6,11,14,16,17} substance/alcohol abuse,^{6,14} self-injury and suicidal ideation/attempt^{8,11,13,18} and somatic complaints,¹⁹ are also well-documented.

Adolescents seem to have higher risk of developing PTSD after violence victimisation compared with adults¹¹ and young women more so than young men.^{6,11,16,20} Moreover, young women suffer from depression and suicide ideation to a higher degree than young men.^{8,11} Recent studies also demonstrate that sexual-minority youth (youth who are attracted to the same sex or endorse a gay/lesbian/bisexual identity) report higher degrees of mental ill-health compared with heterosexual youth.²¹

In prior studies focus has often been on one type of victimisation, such as bullying or sexual abuse. However, a number of young people suffer a variety of victimisations that continue over time.^{14,15,22} In fact, the underlying effect of multiple victimisations seems to account for a considerable part of trauma symptoms in victimised youth. Moreover, youth suffering from different types of victimisation report more mental ill-health than youth suffering from repeated victimisations of the same type.^{15,22}

Studies of multiple victimisations to date have been conducted mainly on children. The devastating effect of dating and intimate partner violence is well-studied in young adults^{12,13} but other types of violence, and especially multiple victimisations, need to be further explored.

The impact of violence victimisations and subsequent ill-health on young people's everyday life is little studied. Associations between violence victimisation and more days of absence and dropout from school are reported in only a few studies.^{20,23} There is also a need for more studies on health-related quality of life after victimisation.^{20,24}

The objective of this study was to assess self-reported ill-health in young women victimised to one or more types of violence compared with non-victimised young women. Specific aims were to analyse the associations between violence victimisation and symptoms of post-traumatic stress (PTS), anxiety, somatic complaints, self-injury and suicide ideation/attempt and school absence.

Methods

The design was cross-sectional. This is a baseline report of a randomised controlled intervention study about violence victimisation and alcohol/substance use among youth.

Setting and study population

In Sweden most cities have youth health centres staffed by midwives, social workers and physicians. Young people up to the age of 22 attend these centres for counselling about sexual and reproductive health as well as social, mental or physical problems. Young women account for about 90% of visits, probably due to prescription of contraceptives being the predominant reason for first visits.

This study was carried out in a county with a population of 240 000 inhabitants. Women aged 15–22 visiting one of the four

youth health centres in the county during the period from 1 January 2012–31 December 2012 were consecutively asked to participate in the study. Exclusion criteria were severe mental disease or mental retardation. Of 1,445 eligible young women, 1,051 (73%) accepted to partake.

Participants were informed orally and in writing about the study, and oral informed consent was obtained. The study was approved by the Regional Ethical Review Board in Umeå (D.no. 2011-110-31Ö).

Study instruments

Informants answered a self-administrated questionnaire constructed from standardised instruments. The first question in the questionnaire was: 'How would you describe your health in general?' followed by questions about smoking, alcohol and substance use taken from the Swedish National Public Health Survey.²⁵ Smoking included daily or occasional smoking. AUDIT-C was applied for assessment of alcohol risk drinking and a score of >5 was used as cut-off value for alcohol risk drinking.²⁶ Substance use (exemplified as cannabis, GHB, anabolic steroids or any other drugs) included daily or occasional use.

Next five questions about violence victimisation followed. Four were modelled from the NorVold abuse questionnaire,²⁷ worded as follows: (i) 'Have you ever experienced being repressed, humiliated or threatened?' (ii) 'Have you ever experienced physical abuse (e.g. being slapped in the face, hit with fists, kicked or having a weapon used against you)?' (iii) 'Have you ever experienced being touched against your will on your body or genitals, or forced to touch someone else's body or genitals, or has anybody used your body to satisfy him/herself?' (iv) 'Have you ever experienced someone, against your will, putting or trying to put his penis, or something else, into your (vagina), mouth or rectum?' A final question was added about experiencing family violence: (v) 'Have you ever seen or heard an adult in your family hurting someone in your family?' No information about the perpetrator was included. Violence victimisation was categorised as ever exposed to one type of violence (i.e. emotional, physical, sexual or family violence) or multiple victimisations, defined as victimisation of two or more different types of violence.

The next section was about health. Questions about days of physical/mental health not good in past 30 days and days of absence from school/work due to ill-health past 30 days were followed by six questions about physical health during the last weeks, all taken from the Swedish National Public Health Survey.

Symptoms of depression and anxiety were measured using the Hospital Anxiety and Depression scale (HAD).²⁸ Participants were considered having depressive symptoms if HAD depression score was >10 and anxiety symptoms if HAD anxiety score was >10. The PTSD Checklist—Swedish Version was used to measure PTS symptoms.²⁹ PTS symptoms were defined as having at least one re-experiencing symptom, three avoidance symptoms and two arousal symptoms, with item scores ≥3. Questions about suicide ideation/attempt in the last 12 months were taken from the Swedish National Public Health Survey.²⁵ Two questions about self-injury were added, worded as follows: 'Have you ever in the last 12 months thought about intentionally hurting yourself, for example, cutting or burning yourself?' and 'Have you ever in the last 12 months intentionally hurt yourself?'.

Three questions about social support were included worded as reported in table 1.25

Finally, socio-demographic questions based on questions from the Swedish National Public Health Survey were included.²⁵

In Sweden, students in upper secondary school attend either vocational or academic programmes. Attending vocational programmes was chosen as a proxy for low educational level. Low economic resources were defined as the inability to obtain the equivalent of 1600 Euro in a week. Foreign background was

defined as foreign-born or Swedish-born with two foreign-born parents.

Analysis

For the analytical framework, the WHO ecological model was used for interpretation of how different individual and contextual factors interact in the multifaceted process of violence victimisation.^{30,31} The first level focuses on individual factors, such as education level, substance use and socioeconomic factors. The second level is about social relationships, such as family situation and social support. On the third level, the community and study population are taken into account. Finally, the fourth level involves larger societal factors in Sweden in particular that may influence rates of violence, such as being the first country to ban corporal punishment of children in 1979 and the adoption in 2006 of a law making it compulsory for schools to have anti-bullying programmes.

Prevalences with 95% confidence intervals were calculated. Student's *t*-test was used to analyse differences in parametric variables and Pearson's Chi-squared or Fisher's exact tests were used to assess differences in non-parametric variables. The significance level used was <0.05 . Crude and adjusted odds ratios with 95% confidence intervals were applied to assess possible associations between violence exposure and different mental and somatic health outcomes. Confounders were chosen according to empirical evidence in the literature and significant variables in the univariate analyses. To examine for possible interactions between violence victimisation and economic resources on the OR:s for different mental health outcomes, economic resources (normal/low) and violence victimisation (no violence/violence) were stratified by creating a new variable with four categories. Attributable risk (AR) and population attributable risk (PAR) were estimated by the AP Exposed = $(RR - 1)/RR$ and Population AP = $(RR - 1)/RR_{\text{ex}}$, respectively. All statistical analyses were performed using IBM SPSS 20.

Results

Of the participants, 56% (590) reported lifetime experience of any type of violence victimisation. Twenty-five per cent (265) of the participants reported being victims to one type of violence and 31% (325) to multiple victimisations. Forty-three per cent (456) reported emotional violence, 23% (241) physical violence, 20% (210) being touched sexually against their will, 10% (109) being victims of sexual penetration and 12% (124) witnessing family violence.

In emotionally victimised women 40% were solely victims to emotional violence, whereas 60% were victims of at least one other type of victimisation in addition to emotional violence. In contrast, 88% of women exposed to physical violence, 86% of those being touched sexually against their will, 99% of victims of sexual penetration and 87% of victims of family violence experiences were also victims of at least one other type of violence.

Distribution of socio-demographic factors, social support, substance use and sexual orientation by categories of lifetime victimisation is presented in table 1.

Associations between violence victimisation and ill-health are presented in table 2. Low educational level, alcohol risk drinking, smoking and lesser social support were more common in multiply-victimised women compared with those exposed to solely one type of violence or not at all. Young women of foreign background had multiple victimisations to a higher degree than women of Swedish background. Sexual-minority young women reported significantly more victimisation for all types of victimisations, compared with heterosexual young women. Multiple victimisations were seen in 60% of the sexual-minority women.

Victims of one type of violence met the criteria for almost all ill-health variables and reported school/work absence to a higher degree

than those not victimised. Women with multiple victimisations reported symptoms of ill-health and school/work absence to a higher degree than those exposed to just one type of violence.

When analyses were adjusted for educational level, economic resources, alcohol risk drinking and trust in others, only minor changes were seen (table 3). Of the social support questions 'trust in others' was the only significant variable in the regression and therefore adjusted for. Substance abuse was not adjusted for due to small numbers. Adjusting for foreign background did not change the odds and was thus not included in the multivariate analyses. Adjusting for sexual orientation showed increased odds ratios only for suicide ideation and self-injury.

Calculation of AR demonstrated that multiple victimisations accounted for 41% of post-traumatic symptoms, 30% of anxiety symptoms, 27% of suicide ideation and 4% of suicide attempt. Concerning PAR, the corresponding figures were 17%, 12%, 9% and 2% (table 3).

Stratified analyses for violence victimisation by economic resources showed that low economic resources did not influence health negatively for those not victimised. A statistical interaction demonstrated that when violence victimisation was combined with low economic resources, ill-health was reinforced multiplicatively (figure 1).

Discussion

The most important findings in this study were the strong associations between violence victimisation and mental and somatic ill-health in young women. Furthermore, multiple victimisations strengthened these associations considerably.

High ARs were evident for symptoms of PTS, anxiety, self-injury, suicide ideation and absence from school/work among the victimised. Low economic resources multiplicatively reinforced poor perceived health among victimised women. The public health impact of violence on ill-health was considerable, as illustrated by the population-attributable proportions.

Association between violence victimisation and trauma symptoms in children and young adolescents is well-documented.^{6,11,14,17} This study extended prior research, showing that association between victimisation and PTS symptoms remains strong for older adolescents and young adult women. In this study, violence victimisation explained 41% of PTS symptoms and 23% of suicide ideation in multiple-victimised young women. However, the AR was only 4% for actual suicide attempt, probably due to the small numbers of suicide attempts.

Multiple victimisations were seen in 60% of sexual-minority women compared with 31% among all women in the present study. Earlier studies indicate that sexual-minority youth suffer from mental ill-health and victimisation to a higher degree than heterosexual youth.^{21,32} In this study, non-victimised sexual-minority women had more suicide- and self-injury ideation but did not otherwise differ in health outcomes compared with non-victimised heterosexual women. Hence, high victimisation rates may be an important factor in explaining the sexual minority young women's higher reported ill-health.

Factors referring to the individual (education, socioeconomic, alcohol use) and relationships (social support) level were assessed in the current study to gain a more comprehensive understanding of violence victimisation in accordance with the WHO ecological model.

Low socioeconomic status has been considered linked to ill-health in youth.³³ In this study, non-victimised young women with low economic resources did not differ in ill-health compared with non-victimised young women with normal economic resources. However, when victimised, young women with low economic resources displayed a multiplicative effect on ill-health compared with victimised women with normal economic resources. These

Table 1 Distribution of women visiting youth health centres according to socio-demographic status, social support, substance use and sexual orientation by categories of lifetime victimisation

	Total % (N)	Not exposed % (n)	Exposed 1 type of violence % (n)	Exposed ≥ 2 types of violence % (n)	
Number of participants	1051	44% (461)	25% (265)	31% (325)	
Age, mean years (lowest–highest)	18.5 (15–22)	18.6 (15–22)	18.4 (15–22)	18.5 (15–22)	ns
Socio-demographics					
Upper secondary vocational school	34% (347)	30% (135)	26% (68)	45% (142)	***a
Low economic resources	18% (188)	11% (53)	16% (42)	29% (93)	***a
Foreign background	4.4% (46)	3.3% (15)	3.8% (10)	6.5% (21)	*c
Social support					
Do not have anyone to share feelings with	6.9% (71)	3.7% (17)	7.2% (19)	11% (35)	***b
Cannot get help with problems	3.0% (30)	0.7% (3)	2.6% (7)	6.2% (20)	***b
Do not trust other people in general	52% (549)	41% (190)	50% (132)	70% (227)	***a
Substance use					
Alcohol risk drinking	33% (330)	26% (122)	29% (77)	40% (131)	***a
Smoking daily or occasionally	20% (208)	10% (48)	14% (36)	38% (124)	***a
Drug use daily/sometimes	1.2% (12)	1.1% (5)	0.7% (2)	1.5% (5)	ns
Sexual orientation					
Homo/bisexual/uncertain	10% (105)	3.9% (18)	9.1% (24)	19% (63)	**

** = $P < 0.01$ between all groups.***a: = $P < 0.01$ between not victimised and victimised to two or more types of violence and between victimised to one type of violence and victimised to two or more types of violence.***b: = $P < 0.01$ between not victimised and victimised to two or more types of violence.*c: = $P < 0.05$ between not victimised and victimised to two or more types of violence.**Table 2** Percentage of mental and somatic ill-health variables, including days of absence, in young women visiting youth health centres when divided into: no violence, victimised to one type of violence and victimised to two or more types of violence

Ill health variables	Total % (N)	No violence % (n)	1 type of violence % (n)	2 or more types of violence % (n)	P values
Perceive general health as less than good	25% (258)	10% (48)	26% (68)	44% (142)	**
Pain in the shoulders or neck	12% (122)	7.3% (34)	11% (30)	18% (58)	***a
Headache or migraine	9% (95)	3.3% (15)	9.4% (25)	17% (54)	**
Eczema or skin rashes	3% (27)	2.0% (9)	2.3% (7)	3.4% (11)	ns
Recurrent bowel trouble	5% (55)	2.6% (12)	4.9% (13)	9.2% (30)	***a
Fatigue	15% (153)	6.1% (28)	15% (41)	26% (86)	**
Sleeping problems	11% (113)	3.3% (15)	9.4% (25)	22% (73)	**
Depressive symptoms	4.5% (47)	1.7% (8)	4.5% (12)	8.3% (27)	**
Anxiety symptoms	19% (204)	7.2% (33)	20% (52)	37% (119)	**
PTS symptoms	22% (235)	5.2% (24)	23% (62)	46% (149)	**
Self-injury ideation	17% (176)	6.3% (29)	15% (41)	33% (106)	**
Self-injury infliction	12% (129)	4.6% (21)	12% (32)	23% (76)	**
Suicide ideation	13% (138)	4.1% (19)	12% (32)	27% (87)	**
Suicide attempt	2.0% (21)	0.6% (3)	0.8% (2)	5.0% (16)	***a
Days of physical health not good in past 30 days (mean)	6.1	4.6	6.3	8.1	**
Days of mental health not good in past 30 days (mean)	9	6.0	9.5	12.7	**
Days of absence (school/work) due to ill-health in past 30 days (mean)	3.3	2.0	3.3	5.3	**

** = $P < 0.01$ between all groups.***a: = $P < 0.01$ between not victimised and victimised to violence two times or more and between victimised to one type violence and victimised to two types of violence or more.

results are in accordance with the theory that other factors than violence alone are at play in an individual's response and resilience to victimisation.^{15,24,34}

Different types of victimisations have often been studied in isolation.^{7,8,10,12,13} However, recent studies reveal that children and adolescents often are exposed to multiple types of victimisations.^{8,23,24} When this is the case, it is more accurate to view victimisation as a chronic condition with repeated episodes of violence, and not as an isolated event.^{9,15,22,24} In this study, single victimisation was seen in 40% of emotionally victimised young women. Victims of physical, sexual and family violence however were multiple victims in 86–99% of the cases. Finkelhor et al. illustrate that the predictive power of individual types of victimisations is eliminated, or greatly reduced,

when the effect of poly-victimisation is taken into account.^{15,22} In this study, multiple violence victimisations were strongly associated with mental and somatic ill-health and PTS symptoms.

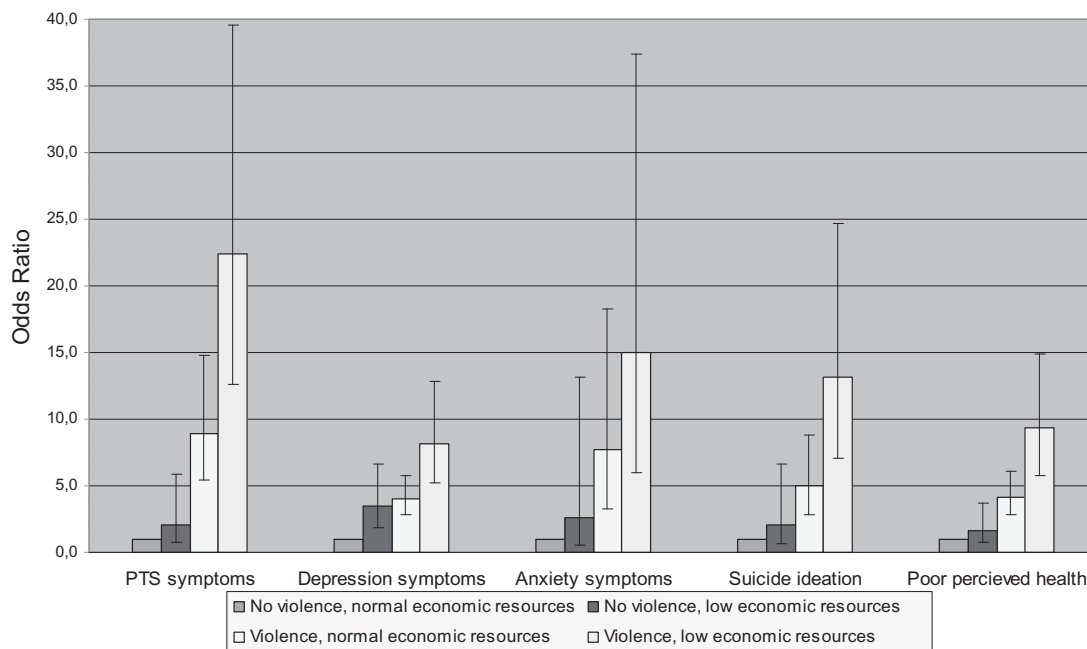
Hence, when viewing multiple victimisation rather as norm, not exception, it becomes evident how different types of violence sometimes extend across time and over settings.

Finkelhor et al. used the Juvenile Victimization Questionnaire to determine the number and types of previous-year victimisation when defining poly-victimisation.¹⁵ We used a different scale defining multiple victimisations as lifetime victimisation to two or more different types of violence. However, the common denominator is probably a violent setting, whether defined by poly-victimisation or victimisation to two or more different types of

Table 3 Odds ratios (OR), AOR, AR and PAR for symptoms of psychological and physical ill-health, controlling for socioeconomic status, economic resources, alcohol risk drinking and trust in others in women victimised to one or two or more types of violence

	Violence one type				Violence two or more types			
	OR	AOR	AR (%)	PAR (%)	OR	AOR	AR (%)	PAR (%)
Pain in shoulders/neck	1.6 (0.9–2.8)	1.6 (1.0–2.7)	4	1	2.7 (1.7–4.3)	2.4 (1.4–4.0)	11	4
Headache or migraine	3.6 (1.9–7.0)	3.9 (1.9–8.2)	7	3	6.4 (3.5–11.7)	5.1 (2.5–10.4)	14	6
Eczema or skin rashes	1.4 (0.5–3.7)	1 (0.3–3.4)	0.7	2	1.8 (0.7–4.3)	1.9 (0.7–5.4)	1	0.6
Recurrent bowel symptoms	1.9 (0.9–4.3)	2.4 (0.9–6.0)	2	0.8	3.8 (1.9–7.6)	5.6 (2.4–13.2)	7	3
Fatigue	2.8 (1.7–4.7)	2.5 (1.4–4.5)	9	3	5.6 (3.5–8.8)	4.6 (2.6–7.9)	2	8
Sleeping problems	3.1 (1.6–6.0)	3.1 (1.4–6.9)	6	2	8.6 (4.8–15.3)	7.7 (3.8–15.7)	19	8
Depressive symptoms	2.7 (1.1–6.7)	2.3 (0.6–8.3)	3	1	5.1 (2.3–11.4)	6.3 (2.1–19.0)	7	3
Anxiety symptoms	3.2 (2.0–5.0)	2.7 (1.6–4.6)	12	5	7.5 (4.9–11.4)	6.3 (3.9–10.2)	30	12
PTS symptoms	5.5 (3.4–9.1)	4.8 (2.7–8.6)	18	7	15.3 (9.6–24.4)	11.8 (6.9–20.1)	41	17
Self-injury ideation	2.7 (1.6–4.4)	2.8 (1.5–5.3)	9	3	7.2 (4.6–11)	8.5 (4.8–15)	27	11
Have inflicted self-injury	2.9 (1.6–5.1)	3.3 (1.6–7.1)	7	3	6.4 (3.9–11)	9.2 (4.6–18.2)	19	8
Suicide ideation	3.2 (1.8–5.7)	4.8 (2.2–10.6)	7	3	8.6 (5.1–15)	10.8 (5.2–22.5)	23	9
Suicide attempt	1.2 (0.2–6.9)	3.4 (0.3–38)	0.1	0.04	7.9 (2.3–27)	14.6 (1.8–118.3)	4	2
>2 days absence/month (school/work)	1.5 (1.1–2.2)	1.4 (1.0–2.0)	8	3	3.4 (2.5–4.6)	2.7 (1.9–3.9)	27	11

Note: Bold figures indicate significant OR and AOR.

**Figure 1** The interaction between violence victimisation and economic resources on OR:s for different mental health outcomes, when stratifications for economic resources and victimisation are made

violence. As most studies on multiple violence victimisations are conducted on children up till the age of 17, this study contributes to the knowledge of violence victimisation, and especially multiple victimisations, in the age group from 15 to 22.

Prior victimisation is the strongest predictor of subsequent victimisation but the reason for this is under debate.³⁵ A recent study suggests a bidirectional relationship between violence and depression.³⁶ It is also likely that multiple victimisations across multiple contexts in a young person's life will damage the person's potential for resilience.^{15,22} Independent of the reason, longitudinal studies confirm that children suffering from multiple victimisations have a high risk of further victimisation.^{15,35}

Reported mental ill-health in young women is high, and possibly increasing.^{1,2} However, non-victimised women in this study generally assessed their health as good whereas victimised young women frequently reported mental ill-health. Violence victimisation thus seems to be a decisive factor for young women's mental health.

Methodological considerations

A strength in the current study is its comprehensive approach. Participants were asked about life-time experience of emotional, physical, sexual and family violence in an effort to cover all types of interpersonal violence. Furthermore, both mental and somatic ill-health outcomes, as well as health-related quality of life and absence from school/work due to ill-health, were assessed. Self-reported health variables were derived from validated questionnaires. The study included a large number of young women in an age span—15–22 years—not so well studied before.

The study population was recruited from youth health centres in two middle-sized and two small towns in Sweden. In the area, the level of at least 3 years of post-secondary education is 19% and 8% have foreign background compared with 23% and 15%, respectively, in the whole of Sweden.^{37,38} A possible sampling bias could be that participants in the study were recruited in youth health centres,

therefore not representative of the population. When comparing women in the same age answering the Swedish National Public Health Survey, participants in our study reported less ill-health.² This is an indication that as a group young women visiting youth health centres do not have more ill-health compared with the general population. It is very common for young women to attend youth health centres, 25% of all 16- to 25-year-old women in Sweden reported having attended a youth health centre in the past 3 months.³⁹ Hence, it is probable that the women in the study represented young women in this particular area fairly well, but women from urban and more ethnically mixed backgrounds were represented less.

One limitation was the cross-sectional design, which does not make it possible to assess the direction of reported associations. It should also be noted that we did not present a measure of PTSD, depression or any other diagnosis, but rather a measure of self-reported symptoms indicating ill-health. Another limitation was that assessment of violence was based on self-report introducing possible risk of underreporting due to shame, guilt or unwillingness to disclose.

Public health and clinical implications

Youth is a period in life when violence victimisation is high. Mounting evidence shows the devastating effect violence has on young people's lives and it is crucial that health professionals working with youth are aware of this association.

Of special importance in this context are comprehensive policies and interventions that address young people's multiple victimisation. The WHO ecological model is useful for a systematic understanding of violence in multiple contexts.

Young people have great potential for life changes and for healing. Health centres and other arenas where young people seek health care or advice are windows of opportunity for asking about violence victimisation and, when needed, offering intervention.

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Conflicts of interest: None declared.

Key points

- Violence victimisation was strongly associated with mental ill-health in young women.
- Multi-victimised women had markedly worse health outcomes than single-victimised.
- Low economic resources reinforced ill-health in victimised women only.
- Sexual-minority young women were more victimised than heterosexual women.
- Health professionals need to be aware of the devastating effect violence has on young women's lives.

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Mortality trends in cardiovascular causes in schizophrenia, bipolar and unipolar mood disorder in Sweden 1987–2010

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Introduction: People with severe mental illness have increased risk for premature mortality and thus a shorter life expectancy. Relative death rates are used to show the excess mortality among patients with mental health disorder but cannot be used for the comparisons by country, region and time. **Methods:** A population-based register study including all Swedish patients in adult psychiatry admitted to hospital with a main diagnosis of schizophrenia, bipolar or unipolar mood disorder in 1987–2010 (614 035 person-years). Mortality rates adjusted for age, sex and period were calculated using direct standardization methods with the 2010 Swedish population as standard. Data on all residents aged 15 years or older were used as the comparison group. **Results:** Patients with severe mental health disorders had a 3-fold mortality compared to general population. All-cause mortality decreased by 9% for people with bipolar mood disorder and by 26–27% for people with schizophrenia or unipolar mood disorder, while the decline in the general population was 30%. Also mortality from diseases of the circulatory system declined less for people with severe mental disorder (–35% to –42%) than for general population (–49%). The pattern was similar for other cardiovascular deaths excluding cerebrovascular deaths for which the rate declined among people with schizophrenia (–30%) and unipolar mood disorder (–41%), unlike for people with bipolar mood disorder (–3%). **Conclusions:** People with mental health disorder have still elevated mortality. The mortality declined faster for general population than for psychiatric patients. More detailed analysis is needed to reveal causes-of-death with largest possibilities for improvement.

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