VIOLENCE, SEXUAL ABUSE AND HEALTH IN GREENLAND

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ABSTRACT

The purposes of the study were to analyse the lifetime prevalence of violence and sexual abuse among the Inuit in Greenland and to study the associations between health and having been the victim of violence or sexual abuse. Associations were studied with specific attention to possible differences between women and men. Further, response rates were analysed specifically in order to understand consequences of including questions on violence and sexual abuse in the questionnaire survey. The analyses were based on material from a cross-sectional health interview survey conducted during 1993-94 with participation from a random sample of the Inuit population in Greenland (N=1393). The prevalence of ever having been a victim of violence was 47% among women and 48% among men. Women had more often than men been sexually abused (25% and 6%) (p<0,001) and had more often been sexually abused in childhood (8% and 3%) (p=0.001). Having been the victim of violence or sexual abuse was significantly associated with a number of health problems: chronic disease, recent illness, poor self-rated health, and mental health problems. The associations between having been the victim of violence or sexual abuse and health was stronger for women than for men. It is possible to secure a reasonably high response rate in a general health survey that includes questions on violence and sexual abuse. *(Int J Circumpolar Health 2002; 61: 110-122)*

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The rates of violence and homicides are high in Greenland as in other Inuit communities, and are a major concern for public health (1). Previous studies of violence in Greenland have been based upon police reports and hospital records. In 1986, 1500 cases of violence per 100.000 inhabitants were reported to the police, and since 1965, the rate had increased 2.5 times (2). In 1983, no gender difference was observed in the frequency of hospital contacts due to violence, but 86% of the aggressors were men. Women were, in particular, victims of domestic violence, and 77% of all violence against women took place at home (3, 4).

Across the globe, violence is a major health problem for both women and men. Data suggest that violence is the sixth major cause of disability-adjusted life years lost for women aged 15 to 44 (5). Since 1996, WHO has empha-

sised the need for a science-based public health approach to violence prevention. However, still very few national health surveys include data about violence and sexual abuse, and the knowledge about the health consequences of violence is relatively scarce (6). In 1997, a Nordic research network, supported by the Nordic Council, was established to promote epidemiological research on violence with special focus upon the health consequences of violence and sexual abuse. One of the strategies is to develop standardised questionnaires, and in the future to include information about violence and sexual abuse in the national health surveys in all Nordic countries.

Such information was already included in a countrywide health interview survey conducted in Greenland in 1993-94. The survey was designed collaboratively between Danish and Greenlandic researchers and cultural and social sensitivity to the Greenlandic society was given high priority. The inclusion of questions on violence was based on the recognition of violence as a significant problem. The data present a unique possibility to analyse the prevalence of both violence and sexual abuse in the population, to study associations between violence and health, and to evaluate possible gender differences in the consequences of violence.

MATERIALS AND METHODS

The countrywide 1993-94 Health Interview Survey in Greenland included questions on health, family and social relations, life style, and living conditions (7). Most of the questions were asked during a personal interview, but in addition to the interview, the participants were asked to fill in a self-administered questionnaire with questions on mental health and well-being, violence and sexual abuse, and the use of alcohol. The study base included a random sample of the adult (18+) population of Greenland from all 17 towns and from 21 of the 52 villages with more than 50 inhabitants. Among these 2425 were asked to participate in the study. The following analyses, however, include only those who identified themselves as Greenlanders and not those who identified themselves as Danes.

A total of 1,580 Greenlanders were interviewed (71% of the sample) and 1,393 Greenlanders returned the self-administered questionnaire (88% of those interviewed) giving a total participation rate of 63%.

The analyses of violence and sexual abuse were based on two questions on violence and two on sexual abuse: 1) *Have you ever as an adult been the victim of one or more of the following types of violence or threats?* 2) *Who was the assailant?* and 1) *Have you ever been forced to sex? (Was this as a child under 13 years of age or as an adult?)*, 2) *Who was the offender?* For each question there was a range of possible predefined answers. Different degrees of violence were illustrated by examples ranging from serious threats through being pushed, pulled or slapped, thrown into furniture or down stairs to violence with weapons and strangling attempts. If any of these were answered affirmative respondents were asked to identify one or more assailants predefined as spouse/cohabitant, other family member, a friend or another person. Offenders of sexual abuse were predefined as spouse/cohabitant, father, foster-father, other family member, an acquaintance or another person. The questions on violence were based on the questions developed by Straus (8) that were also used in the Canadian Violence Against Women Survey (9).

Statistical procedures included chi-square statistics, Pearson's correlation, and binary logistic regression analysis. The data were analysed using the Statistical Package for the Social Sciences (SPSS) for Windows v. 9.0 software (SPSS Inc., USA). Statistical significance was determined at the 95 per cent confidence interval (95% CI) level. The Commission for Scientific Research in Greenland has ethically approved the 1993-94 Greenland Health Interview Survey including a thorough review of the questionnaire in its Greenlandic as well as Danish version.

RESULTS

Among the 735 women and 658 men who answered the self-administered questionnaire, 669 women (91%) and 604 men (92%) answered one or both of the questions on violence, and 645 women (88%) and 586 men (89%) answered one or both of the questions on sexual abuse. Elderly people (60+ years of age) did not answer the self-administered questionnaire as often as younger people (76% and 90%) and the village population not as often as the town population (76% and 92%). Participants with nine or more years of school attendance, in all age groups and among both the village and the town population, had filled in the self-administered questionnaire more often than those with

less school education. There was no difference in response rate to the self-administered questionnaire between men and women.

The response rates for questions on violence and sexual abuse were lower than for the questions on disease and illness, at the same level as for questions on employment status and mental health, and higher than for questions on the use of alcohol. The response rates to the questions on violence and sexual abuse were also higher than the response rates to specific questions like the building material of peoples own home and whether people bring emergency equipment in the boat when they go sailing (Table I).

Violence

Victims of violence were defined as participants who reported having been the victims of violence or threats and/or who identified an assailant. Women and men had equally often been the victims of violence (47% of women and 48% of men). The prevalence of women who reported ever having been the victims of violence decreased with age, whereas this age difference was not found among men. Young women, 18-24 years of age, had more often been assaulted than young men (59% and 44%) (p=0.04), whereas older men (60+ years of age) had more often been assaulted than older women (35% and 19%) (p=0.05) (table II).

Table I. Response rates to selected questions among participants who returned the self-administered questionnaire. 1993-94 Greenland Health Interview Survey.

	Women n=735	Men n=658	Total n=1393
Interview survey			
Self-rated health	99.5	99.4	99.4
Illness (past 2 weeks)	98.9	99.7	99.3
Chronic disease	97.8	98.0	97.9
Medical treatment (past 3 months)	97.8	97.4	97.6
Employment status	95.0	91.3	93.3
Home built of wood/concrete/other	84.9	86.5	85.6
Emergency equipment when sailing	79.3	89.4	84.1
Self-administered questionnaire			
General health questionnaire	90.9	93.5	92.1
Violence or serious threats	91.0	91.8	91.4
Sexual abuse	87.8	89.1	88.4
Use of alcohol	82.3	85.7	83.9

Table II. Prevalence of life-time violence, life-time severe violence and violence within past 12 months by age and sex. 1993-94 Greenland Health Interview Survey. P-values for age difference.

	Violence		Severe violence		Violence past 12 months	
	Women n=669 p<0.001	Men n=604 p=0.035	Women n=669 p=0.002	Men n=604 n.s	Women n=669 p=0.005	Men n=604 p=0.008
Age	%		%		%	
18-24	58.8	44.0	32.5	29.8	21.1	23.8
25-34	50.2	54.3	27.1	35.2	13.9	20.6
35-59	44.6	46.8	28.1	29.4	10.7	11.9
60+	19.4	34.8	6.5	20.3	3.2	10.1
Total	46.8	47.5	26.5	30.3	13.0	16.2

Within the previous 12 months, 15% of the respondents had been assaulted. No significant sex difference was found, but among both women and men younger respondents more often than older respondents had been assaulted within the past 12 months (table II).

The violence was categorised into four types: 1) serious threats, 2) less severe violence, 3) severe violence (kicked, hit with object, thrown into furniture, walls or down stairways, or strangling attempts), and 4) other or not specified violence. Among all respondents, 5% had ever been the victim of serious threats, 8% of less severe violence, 28% of severe violence, 6% of other or not specified types of violence, and 53% had not been assaulted. Only small gender differences were observed: 27% of all women and 30% of men had ever been the victim of severe violence (table II) whereas 6% of all women and 4% of men had been the victim of serious threats (p=0.05).

The question about the identity of the assailant was answered by 86% of the women and 84% of the men who reported having been assaulted. Among women, 58% identified their spouse as the assailant, while 20% identified the assailant as someone more distant to them than a family member or a friend. In contrast to this, only 8% of the assaulted men identified the spouse as the assailant, while 62% reported that the assailant had been a person more distant than a family member or a friend. Among all assaulted persons only 5% of women and 9% of men identified the assailant as a family member other than the spouse and only 4% of women and 5% of men identified a friend as the assailant.

Among those who returned the self-administered questionnaire, 17% of women and 19% of men reported that they as an adult had been treated medically as a consequence of violence. It should be noted that among these 215 persons, 32 had neither reported episodes of violence nor identified an assailant and they therefore did not figure in the overall prevalence of violence. Taking these 32 persons into account would change the prevalence from 47% to 48% for women and from 48% to 51% for men.

Victims of violence more often than those not assaulted reported a high consumption of alcohol (19% and 48% of assaulted women and men compared to 7% and 30% of women and men who had not been assaulted) ($p<0.001$ for the difference among both women and men). The assaulted had also more often within the past 12 months experienced other problems than violence because of their own or their family's alcohol abuse, i.e. health problems, problems with lack of money etc. (72% and 66% of assaulted women and men compared to 44% and 50% of those not assaulted) ($p<0.001$ for the difference among both women and men). Finally, the assaulted more often than others reported having experienced alcohol related problems in their parental home (51% and 43% of assaulted women and men compared to 29% and 31% of those not assaulted) ($p<0.001$ for the difference among women and $p=0.010$ for the difference among men). Victims of violence did not differ from non-victims as regards place of residence (town/village), marital status, or education and employment status.

Sexual abuse

Victims of sexual abuse were defined as participants who reported having been forced to sex and/or who identified an offender. Important gender differences in the prevalence of sexual abuse were found. A total of 25% of women had ever been sexually abused (table III). Younger women more often than older women reported sexual abuse and younger women also more often reported sexual abuse as a child (8% of all women, but 13% of women 18-24 years of age and 2% of older women 60+ years of age) ($p=0.02$) (table III). Among men the prevalence of sexual abuse was relatively low (6% ever abused, 3% as a child), and the material showed no significant age difference (table III). However,

compared to women a larger percentage of the sexually abused men had been abused as a child (58% and 32%) (P=0.005).

Most of the sexually abused women (91%) answered the question as to the identity of the offender. In 30% of all cases, a family member was identified as the offender, 18% reported that the offender was an acquaintance, while 43% reported a person more distant than a family member or an acquaintance. Among the women who had been sexually abused as a child, 54% reported that the offender had been a family member (18% that it was the father). Men did not quite as often as women answer the question on the identity of the offender (70%). The material showed no difference as to the identity of the offender when comparing the answers of all sexually abused women and men. However, when analysing only sexual abuse in childhood there was a significant difference. Men did less often than women report that the offender had been a family member, 21% and 54% respectively, more often the offender was a more distant person (53% among men compared to 38% among women)(P=0.05).

The material showed no specific characteristics of the sexually abused as regards place of residence, marital status, or education and employment status. Sexually abused women reported a high consumption of alcohol more often than those who had not been sexually abused (18% of abused women compared to 11% of non-abused) (p=0.04). The association between sexual abuse and own alcohol consumption was not significant for men. Both sexually abused women and men had more often than others

Table III. Prevalence of sexual abuse (ever and as a child < 13 years of age) by age and sex. 1993-94 Greenland Health Interview Survey. P-values for age difference.

	Sexual abuse		Sexual abuse as a child	
	Women n=645 p=0.007	Men n=586 n.s.	Women n=645 p=0.092	Men n=586 n.s.
Age	%		%	
18-24	33.9	10.0	12.5	3.8
25-34	25.8	4.1	7.7	3.1
35-59	21.7	5.1	7.0	3.5
60+	10.9	7.0	1.8	1.8
Total	24.5	5.6	7.8	3.2

within the past 12 months experienced problems other than violence because of their own or their family's alcohol abuse (60% among the abused and 43% among non-abused) ($p<0.001$). Finally, the sexually abused had more often than others experienced alcohol-related problems in their parental home (58% among the abused and 34% among non-abused) ($p<0.001$). Those who had been sexually abused as a child had much more often than others experienced frequent alcohol-related problems in their parental home (25% among the abused and 7% among non-abused) ($p<0.001$).

The material showed a marked correlation between non-sexual violence and sexual abuse. Victims of violence had been sexually abused 2.5 times more often than those who had not been the victims of violence ($P<0.001$).

Associations with health

Among the victims of violence, 31% of both women and men reported ever to have been treated medically as a consequence of violence. Among those who had been the victims of severe violence, 34% had been medically treated compared to 23% of those who were the victims of less severe violence or serious threats ($p<0.001$), similar for women and men.

The victims of violence and/or sexual abuse more often than others reported both physical and mental health problems (table IV). Women who had been the victims of violence and/or sexual abuse, more often than other women had chronic diseases, more often reported illness during the preceding two weeks, and rated their health lower than other women. Also, women who had been the victims of violence more often than others had specific health problems such as female pelvic disease and dysmenorrhea. Assaulted men more often than other men had chronic diseases but there was no correlation between physical health and sexual abuse. In contrast, the mental health of women as well as men was correlated to both violence and sexual abuse (table IV).

DISCUSSION

In our study women and men in Greenland equally often

Table IV. Odds ratios for ill health among victims of violence and sexual abuse compared with non-victims. 1993-94 Greenland Health Interview Survey. Odds ratios with 95% confidence intervals controlled for age.

	Violence or serious threats	Sexual abuse
Chronic disease		
Women	1.50 (1.05-2.16)	1.73 (1.15-2.61)
Men	1.60 (1.13-2.26)	n.s.
Illness (past two weeks)		
Women	1.84 (1.19-2.85)	1.73 (1.07-2.78)
Men	n.s.	n.s.
Poor self-rated health		
Women	2.48 (1.63-3.79)	2.83 (1.81-4.43)
Men	n.s.	n.s.
Dysmenorrhea		
Women	1.53 (1.08-2.18)	n.s.
Gynaecological diseases		
Women	1.98 (1.34-2.93)	n.s.
Suicidal thoughts		
Women	3.80 (2.42-5.96)	4.19 (2.72-6.44)
Men	2.28 (1.37-3.82)	2.72 (1.13-6.57)
Vulnerable*		
Women	2.37 (1.70-3.31)	1.81 (1.25-2.64)
Men	1.59 (1.11-2.28)	2.87 (1.39-5.97)
Medical treatment (past 3 months)		
Women	1.46 (1.06-2.01)	1.52 (1.04-2.23)
Men	1.61 (1.16-2.25)	n.s.

• Measured by Goldberg's General Health Questionnaire 12 question version (29); vulnerability defined as scores of 2 or more.

reported having been assaulted and there were only small gender differences in the prevalence of severe violence. In Denmark an interview survey on violence found considerable differences in the prevalence of violence between women and men: 19% of women and 36% of men had ever been the victims of violence (10). Also, the Danish study found that women were the victims of severe violence much more seldom than men (9 % of women but 23% of men). The comparison between the two studies shows that the overall prevalence of violence is somewhat higher in Greenland than in Denmark. However, while the difference between Greenlandic men and Danish men is not particularly remarkable, the Greenlandic women report to have been the victims of violence much more often than Danish women.

Comparisons with studies from other Nordic countries show that while in Finland the prevalence of violence against women was similar to the one in Greenland (40% of women 15+ years of age had been the victims of physical or sexual violence) (11), a study from Iceland found a prevalence similar to the one in Denmark (25%) (12). From Sweden, a study among 486 women between 40 and 50 years of age found a prevalence of adult experience of violence or abuse of 16% (13), while a national survey among 6926 women found that 46% as adults (15+ years of age) had been the victim of violence by any male (14). Questions on sexual violence against children have also been included in a small number of Nordic surveys. In Finland, 8% of the girls and 1% of the boys in a study among 9000 15-16 year old children answered that they had at some time unwillingly been the victims of a sexual act (15). In a Norwegian study among 18-21 year olds, 7% of the girls and 1% of the boys had been sexually assaulted in their early childhood (< 12 years of age) (16). From Sweden, the previously mentioned study among 40-50 year old women found a prevalence of childhood abuse of 3% (13), while the national survey found that 20% of the women had been sexually abused before the age of 15 (14). Differences in childhood sexual abuse among boys and girls in Sweden were found in a study among almost 2000 17-year-olds, which showed that 7% of the girls and 2% of the boys had been the victims of sexual violence (17). These rates correspond to the overall prevalence of sexual child abuse (<13 years of age) in our Greenlandic study, but the prevalence for the youngest age group, 18-24 years of age, is somewhat higher in Greenland (13% among girls and 4% among boys).

Only very few studies have examined violence and sexual abuse among Inuit and other indigenous peoples in the Circumpolar North. The national Violence against Women Survey showed that 51% of women in Canada had experienced at least one incident of physical or sexual violence since the age of sixteen (9) compared to 56% of adult women in our study, but this study excluded the Yukon and the Northwest Territories. The report of the Royal Commission on Aboriginal Peoples (18) does not include information on data collection and methodology but refers to the Canadian Panel on Violence Against Women from 1993, estimating a 4-5 times higher prevalence of sexual abuse in the Northwest Territories than in the rest of Canada.

A study on violence among American Indian families

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found that alcohol consumption and self-perceived stress were independent predictors of increased risk for violence. The typical pattern of violence was a husband or boyfriend getting drunk with friends and then assaulting his partner when returning home (19). Our study showed alcohol abuse and alcohol problems in the family to be a significant characteristic of both women and men who had been the victims of violence. Furthermore, we found that women were mostly assaulted and abused by family members while men were more often assaulted and abused by people outside their household. This is general pattern, similar to findings in a Danish study (10).

Our study showed that more young than elderly respondents had been the victims of violence during the past 12 months. The prevalence of ever having been the victim of violence was also higher among young women than among the elderly, which might indicate a temporally increasing prevalence of violence. Alternative explanations include younger respondents being more willing to admit (domestic) violence or having a broader definition of what constitutes violence. Finally, it is possible that the elderly women to some extent had forgotten episodes of violence during their youth. These perspectives may also be relevant for the pattern of sexual abuse.

Associations with health

There are some obvious limitations in a cross-sectional study for the separation of causes and consequences of violence. It is, however, more intuitively acceptable that poor self-rated health is caused by violence than the opposite. There are plans for follow-up studies in Greenland with interviews of the same participants after e.g. 10 years, and these studies will allow us to follow cohorts of victims versus non-victims of violence and give a more clear picture of the consequences of violence.

The results of the study supported the findings of earlier studies that violence is significantly associated with acute and chronic health problems among women (5, 20). Gynaecological diseases have been shown to be related to having been assaulted (21) and this is supported by our study.

The study also showed that while women's physical health was associated with both violence and sexual abuse this does not seem to be the case among men. This differ-

ence between women and men regarding the associations between violence victimisation and health has not been analysed in the other Nordic studies that focused mainly on violence against women.

Sexual abuse was primarily associated with mental health problems in our study. This supports earlier studies from Denmark showing that sexual abuse only in a limited number of cases caused serious physical problems while chronic mental health problems were more common (22, 23). For both women and men serious suicidal thoughts were correlated with having been assaulted or abused, which confirms a recent study showing a relationship between partner abuse, posttraumatic stress and suicide attempts (24). Also, a Swedish study found that suicide attempts were ten times as frequent among the victims of violence than among non-victims (25).

In the present study, victims of violence - and among women also the sexually abused - had more often been in contact with the health care services than non-victims. The association between violence and the use of health care services was also found in a study from Canada (26), and an American study estimated that victims of violence had contact with the health care services 2-3 times as frequent as non-victims (27). The figures indicate the impact of violence and sexual abuse on the health care services but no doubt a major part of the health problems caused by violence are never seen in the health care services. Especially the violence against women, which is known often to take place within the household by a close family member, has been characterised as a hidden health burden (28). The violence against men more often takes place in the public space and the physical health problems are taken care of immediately by the health care services.

Response rates

Very few national health surveys have included questions on violence and sexual abuse and it has been argued that such an inclusion would reduce the response rate. The initial drop-out rate in our study was 29%, of those remaining 88% returned the self-administered questionnaire, and 91% of these answered the question on violence. The overall response rate to the questions on violence was therefore only 57%, but we do not attribute this to the inclusion of ques-

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tions on violence in the questionnaire. It is our experience from Greenland, that due to frequent unregistered moving and the lack of professional full-time interviewers, response rates in surveys based on random samples from the central population register are usually lower than in the Scandinavian countries. In our study the response rates to questions on violence and sexual abuse were high among those who returned the self-administered questionnaire. It is especially interesting to note that even the questions on the identity of the perpetrator have been so readily answered by the respondents. There is no reason to believe that the inclusion of these questions in the Greenland health interview survey has had any negative effect on the overall response rate.

Cultural differences in willingness to answer specific questions are likely to exist. Though not included in the present analyses, our material included respondents who identified themselves as Danes. Compared to the Greenlanders the response rate among the Danes to the questions on violence and sexual abuse was even higher. This suggests that the inclusion of the questions most likely would not negatively influence the response rates of other national health surveys either.

In summary, three important conclusions can be drawn from the study. First, it is possible to secure a reasonably high response rate in a general health survey that includes questions on violence and sexual abuse. Second, the study confirmed the previous reported high prevalence of violence in Greenland, and found few gender differences for violence, but significant differences for sexual abuse. Third, the health of women seems to be more closely associated with violence and sexual abuse than the health of men.

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