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Original article

Domestic violence: variation in case-management by the general practitioner in Belgium

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Abstract

Objectives: to describe the medical interventions and referrals carried out by the general practitioner (GP) when taking care of victims and to quantify the between-physician variability in management of domestic violence.

Methods: A nationwide sentinel network of 150 general practitioners, covering 1.5 % of the Belgian population, registered in 2002–2004 all episodes of domestic violence for which they were consulted, via paper registration forms. A multilevel analysis was carried out by fitting a random effects logistic regression model for every intervention/referral.

Results: The most frequent interventions of the GP were providing a certificate of injury (54 %), and making an appointment for a next visit (33 %). Half of the patients were referred or hospitalised upon the first consultation, most frequently they were advised to go to the police (17 %) or referred to a psychologist or psychiatrist (11 %). The intra cluster correlation coefficient (ICC) of the interventions varied between 11 % and 39 % and the median odds ratios between 1,82 and 3,96.

Conclusions: GP consultations for domestic violence are frequent and involve considerable between-physician variability in care.

Keywords: Physicians – Family – Domestic violence – Multilevel analysis.

Introduction

In its 1996 resolution WHA49.25, WHO declared violence a major public health problem. According to the WHO typology, domestic violence is defined as interpersonal violence where perpetrator and victim are intimate partners or relatives. Domestic violence can be either physical, psychological or sexual by nature.[1]

In Belgium, if the victim discloses the problem, there are several caregivers or agencies the victim can turn to.[2] As the general practitioner (GP) has a key role in the Belgian health care system, he's in a position where he can reach and identify a large number of victims. The vast majority of the population has a regular GP, consults his GP frequently and does not seem to encounter financial barriers when contacting their GP.[3] The Belgian GP generally receives and centralises all medical information on the victim's contacts with other health services, especially if the patient has a so called 'Global Medical File' (a file, gathering all medical information on a patient, held and managed by a GP of the patient's choice).[4]

Notwithstanding the GP's potential key role in the management of domestic violence, no absolute numbers are known on the frequency of GP encounters for this problem. Both a multi-centred survey surveillance study among pregnant women in a Belgian province and the Belgian health interview survey 2004 show that in the vast majority of cases, no physician is contacted.[3,5] Combining these data with incidence data on the consultation rate may shed some light on the extent of the problem in the general population.

Also, though qualitative studies have been carried out to assess the general practitioner's management of domestic violence[6], quantitative information on the actual management by the GP of domestic violence is lacking. Moreover, since it is reported that many GPs experience barriers to follow up victims of domestic violence [6–14], the GP's management might be characterised by large between-physician variability.

Int J Public Health 54 (2009) 106–111

This study aims to gain insight in the GP's case management of intra-familial violence by describing current practices as well as by estimating the variability in management between GPs.

Methods

Study design

The Belgian national sentinel network of general practitioners consists of GPs who register weekly, on paper forms, data on a number of health problems. They participate on a voluntary basis at least for the duration of 1 year. Only data from GPs who register at least 26 weeks a year are taken into account for analysis. The GPs are representative for all Belgian GPs in terms of age, sex and geographical distribution. The study referral population is the total Belgian population and, based on their annual number of patient contacts, the GPs participating in the network are estimated to cover 1.5 % (or 150.000 inhabitants) of that total Belgian population.[15] Belgian patients have free choice of the first GP to contact and can change GP at any time.[4] Therefore, the participating GPs could not provide a list of their patients, nor the age and sex distribution of their patient population. Only the size of their patient population could be estimated on the basis of the comparison of the number of patient contacts of the sentinel GPs with the total number of patient contacts of all general practitioners (provided by the National Institute for Sickness and Invalidity Insurance), for a given year.

From January 1 2002 until December 31 2004, the sentinel GPs registered all patients who consulted for domestic violence.

The registration form included questions on socio-demographic characteristics of victim, perpetrator, and household, socio-demographic characteristics of the GP and information on his practice (organisation), nature of the violence (physical, psychological, sexual), place of violence, the reporter of the complaint and the consequences for the victim. For the provision of care, the GP was asked to complete a checklist of possible interventions and referrals. Four months after the first consultation, a follow up form was sent to the GP with additional questions on long term consequences.

Case definition

The instructions defined intentional violence as 'every deliberate and (by the victim) unwanted violation of the victim's physical, psychological or sexual integrity, regardless of the age or sex of the victim'. The definition explicitly included all requests for certificates, even if there were no objective signs, as well as unconfirmed suspicions of psychological aggression. Self-mutilation and suicide (attempts) were explicitly excluded. Not only those cases where the patient initiated the reason for visit were included, but also the cases where the GP concluded from injuries that a case of domestic violence might be at stake. In the latter case, the GP was asked four months later whether his suspicions were confirmed.

Statistical analysis

Differences in patient characteristics between male and female victims were subjected to a Pearson χ^2 test for categorical variables with all cell sizes less of 10 and above and to a Fisher's exact test for categorical variables with any cell size less than 10.

As patient data are collected through GPs, the data are hierarchically structured. In order to take into account possible clustering effects in care at GP level, a multilevel analysis was carried out by fitting a random effects logistic regression model for every intervention/referral, with the presence of the intervention as the binary dependent variable, and no independent variables.

A random intercept was allowed for each GP. The probability of each intervention was calculated using the intercept of the model:

$$\pi = \frac{e^{\beta 0}}{1+e^{\beta 0}}$$

Both the intra cluster correlation coefficient (ICC) and the Median Odds Ratio (MOR) quantify the between-GP variability in management. The ICC is an expression of the proportion of the total unexplained variance attributable to the cluster (= GP) level. The ICC in these multilevel logistic regressions was calculated on the assumption of a threshold model.[16] The MOR is the median of all odds ratios resulting from every comparison of two persons with the same covariates but from randomly chosen different GPs.[17] The MOR enables direct comparison between fixed effects and the magnitude of heterogeneity. It is always larger than 1 and the higher the MOR, the larger the variability between clusters. All statistical analysis was performed with SAS 9.0 (Cary, NC).

Results

Number of registered cases

In total 963 valid cases of domestic violence were registered. The number of regularly participating sentinel practices was 150 in 2002, 163 in 2003 and 181 in 2004, representing 168, 182 and 213 GPs respectively. The covered population was estimated at 156 036, 169 402 and 182 263 respectively in 2002, 2003 en 2004. 66 % of the participating practices registered at least 1 case of domestic violence in the course of 1 year.

Basic characteristics of registered cases

Table 1 shows the basic characteristics of the registered cases of domestic violence, by sex. Most of the victims were women, whereas 90 % of the perpetrators were men. The majority of victims was between 18 and 64 years of age, but compared to women, there were more men in the younger and elder agegroups. In most of the cases the victim himself disclosed the violence, but men were less likely to do so than women. The current episode was often not the first episode of interpersonal violence, especially not in case of women victims. In the vast majority of the cases, domestic violence occurred at home. Compared to male victims, female victims consulted more frequently for violence at home, and less frequently for intrafamilial violence in a public place. There was more alcohol abuse among the male than among the female victims.

No gender differences were noted in the reporting of physical (80 % in men and 76 % in women) or sexual violence (4 % in men and 7 % in women). Psychological violence however was more frequently reported in women (82 %) than in men (71 %). Generally there was a combination of these different forms of violence. The most frequent reported physical injuries were haematomas, contusions and open wounds, whereas the most frequent forms of psychological violence were emotional pressure and verbal violence. Men consulted considerably more frequently for open wounds, and considerably less for emotional pressure and extorsion.

In the four months following the first consultation, more than one third of the victims had experienced mental problems and 11 % had been absent from work or school during that period because of the violence. Women experienced more frequently mental problems than men.

Table 1. Basic characteristics of the study population.

		Male victims		Female victims		p Value[†]
Demographic characteristics		**N[‡]**	**%**	**N[‡]**	**%**	
Age group victim	≤17y	34	19	47	6	
	18-64y	117	65	648	86	
	≥65y	29	16	57	8	<0.0001
Sex perpetrator	man	95	66	609	95	
	woman	49	34	34	5	<0.0001
Victim reported complaint himself	yes	146	78	693	90	<0.0001
history of domestic violence	Previous episodes	89	48	492	64	
	First episode	96	52	274	36	<0.0001
pregnancy (among female victims aged 18 to 45)	Yes			9	2	
Victim and perpetrator live in the same house	Yes	91	90	473	93	0.23
Characteristics of the violence						
Nature of the violence	Physical violence	150	80	586	76	0.25
	Psychological violence	134	71	636	82	0.0006
	sexual violence	8	4	53	7	0.24
Physical injuries	No injury	20	11	67	9	0.41
	open wound	41	22	86	11	0.0001
	Haematoma	80	43	387	51	0.05
	Fracture	7	4	26	3	0.82
	Other injury locomotor system	9	5	29	4	0.53
	Burn wound	3	2	5	1	0.20
	Contusion	38	20	196	26	0.13
	Poisoning	1	1	4	1	1.00
	Injury eye/ear	7	4	33	4	0.84
	Drowning	1	1	1	0	0.36
	Concussion	6	3	15	2	0.28

Int J Public Health 54 (2009) 106–111

Table 1. Continued.

Demographic characteristics		Male victims N‡	Male victims %	Female victims N‡	Female victims %	p Value†
Psychological violence	emotional pressure	68	37	398	53	0.0001
	Verbal violence	104	57	480	64	0.08
	extorsion	12	7	101	13	0.01
	neglect	7	4	34	5	0.84
	neglect of treatment	5	3	15	2	0.57
	intimidation	5	3	7	1	0.07
Substance abuse	acute abuse alcohol victim	13	7	21	3	0.01
	chronic abuse alcohol victim	26	14	61	8	0.01
	acute abuse alcohol perpetrator	21	11	100	13	0.54
	chronic abuse alcohol perpetrator	40	22	206	27	0.14
Place of the violence	home	141	75	686	89	<0.0001
	Other house	15	8	43	6	0.21
	institution	0	0	6	8	0.60
	Public place	27	14	47	6	0.0001
	work	4	2	8	1	0.27
	other	1	1	5	1	1.00
Long-term consequences	Mental problems	53	28	321	42	0.0007
	absence from work or school	19	10	91	12	0.52

† p values represent Fisher's exact test for categorical variables with any cell size less than 10 and χ^2 test for categorical variables with all cell sizes less of 10 and above

‡ Missing values: for sex of the victim, n = 3; for age group, n = 28, for sex of the perpetrator, n = 176; for history of domestic violence, n = 9; for absence of physical injuries, n = 9; for all other physical injuries, n = 11; for psychological violence, n = 21; for alcohol use victim, n = 6; for alcohol use perpetrator, n = 7

Interventions / referrals at the first consultation

Taking into account the two-level data structure, the probabilities of each intervention and referral were calculated. At the first consultation, the probability of receiving a certificate of injury or an appointment for a next visit were 54 % and 33 % respectively. Twelve percent of the patients received a prescription for psychotropic medication and 13 % needed a certificate of incapacity of work. Three percent of the patients were immediately hospitalised. None of the mentioned interventions or referrals was carried out in 13 % of the cases. The overall probability of being referred or hospitalised was 49 %. The referrals with the highest probability included the advice to go to the police (17 %) and a referral to a psychologist or psychiatrist (11 %) (Tab. 2).

Unadjusted for patient and GP characteristics, the ICC or the proportion of the total unexplained variance attributable to the GP, ranged between 11 and 39 percent, depending on the intervention or referral. The median of all odds ratios resulting from every comparison of two persons with the same covariates but from randomly chosen different GPs, varied between 1.82 and 3.96, meaning that for two persons with exactly the same covariates but consulting two different GPs, one person will, on average, have an odds of the intervention that is 1,82 to 3.96 times higher then the other person, due to the variability between GPs. The interventions/referrals with the highest inter-physician variability were referral to a shelter or a child abuse centre, making an appointment for a next visit and hospitalisation. The lowest inter-physician variability was found in referring to the social services, providing a certificate of incapacity of work, and referring to another GP or specialist (Tab. 2).

Discussion

Main findings

Among victims of domestic violence who consult the GP, all age groups and sexes are represented, but the majority of them are adult women. The violence usually takes place at home. Perpetrators are most often reported to be male. Usually there is a combination of both physical and psychological violence. This study estimates that yearly 2 out of 1000 persons consult their GP for reasons of domestic violence.

GP care usually involves a combination of interventions or referrals. Although documentation of the violence is of uttermost importance, the GP documented the violence by a certificate in half of the cases, which corroborates previous findings in primary care research.[18] Given his key role in

Table 2. Probability of intervention and between-physician variability.

		N of cases covered	Probability of intervention (95 % reference interval)	ICC	MOR
Interventions	Next appointment	375	33% (3 %–87 %)	35 %	3.59
	Prescription psychotropic medication	159	12 % (3 %–39 %)	15 %	2.07
	Certificate of injury	458	54 % (12 %–91 %)	27 %	2.89
	Certificate of incapacity of work	143	13 % (4 %–35 %)	12 %	1.89
	Hospitalisation	46	3 % (0 %–26 %)	34 %	3.48
	No immediate interventions	157	13 % (3 %–39 %)	15 %	2.04
Referrals	Child abuse centre	42	2 % (0 %–22 %)	38 %	3.83
	Guidance centre	44	3 % (1 %–16 %)	20 %	2.38
	Shelter / safe house	8	0.3 % (0 %–5 %)	39 %	3.96
	Social services	78	7 % (2 %–20 %)	11 %	1.82
	Police	181	17 % (3 %–56 %)	21 %	2.44
	Psychologist/psychiatrist	127	11 % (2 %–45 %)	23 %	2.57
	Other GP/specialist	35	3 % (1 %–11 %)	14 %	1.98
	Any referral (incl. hospitalisation)	457	49 % (14 %–85 %)	20 %	2.38

the Belgian health care system, the GP may play an important role in the active follow-up of the patient. In light of the previously reported barriers encountered by GPs when treating and following up victims of domestic violence, 33 % follow-up visits was in line with the expectations. The central position of the GP within the health care system and the multidisciplinary approach of care for domestic violence were also reflected in the high probability of referral (50 %). Overall, the GP more frequently referred to legal entities than to medical or social services. If a patient was referred to a medical agency, it was more frequently to another physician or health service, rather than to a multidisciplinary service. A striking finding of the medical care provided by the GP was that 12 % of all victims of domestic violence were prescribed psychotropic medication, confirming the reported association between a history of domestic violence and decreased psychological well-being.[19]

As hypothesized, considerable inter-physician variability in care was found. The particularly large variability in referral to guidance centres and child abuse centres may partly be explained by geographical availability, but possibly also due to the fact that not all GPs are familiar with these more specialised agencies. The large variability in making follow up appointments could be a reflection of personal barriers of the GP, such as a lack of confidence (due to a perceived lack of education or experience), a conviction that the interventions will be unsuccessful, the considerable time investment or the fact that there may be little positive feedback.[6–14]

The large inter-physician variability endorses the GP's need for clinical guidelines for the health care of victims of intrafamilial violence. In a next phase of this study, adjusting for (intervention specific) salient patient- and GP-related characteristics will offer more insight in the determinants of the inter-physician variability. Next, guidelines targeting these determinants should be developed.

Strengths and weaknesses

This study provides the answer to a number of research questions for which, until now, no information was available at the national level.

In the past, the sentinel network of general practitioners proved to be an efficient surveillance instrument that yielded valid epidemiological data for several infectious and non-infectious health problems.[20–24] The network has a large coverage, both in terms of GPs and population. Since the majority of GPs participates in the registration network for several years, the GP is most familiar with the mode of registration, which reduces the odds of registration errors by the GP. The instrument exists since many years, has a structural funding and a well-organised administration and technical management of the database. Hence introduction of a new health problem, such as interpersonal violence, is far less expensive than setting up a new survey. A health topic can be registered for one single year or, at the same cost, for several years.

A major drawback of the instrument is that, since there are no patient lists, the population denominator (the 'sentinel population') has to be estimated, possibly leading to biased calculated incidences. However, comparison of the registered (age- and sex-specific) incidences of stroke mortality and suicide with the national vital statistics and of cancer incidence with several national and international cancer registries showed that there were no large differences.[20,25,26] Consequently it is assumed that the population covered is representative for the total Belgian population in terms of age and sex. Neverthe-

less, since conditions such as stroke, suicide and cancer are less subjected to report biases than domestic violence, the study population may not be representative for the whole Belgian population.

Another weakness of the instrument is that, as the burden on GPs should be kept to a minimum, it is also not possible to include many or time-consuming questions in the registration form, and this may limit flexibility and in-depth study of some aspects.

Finally, since there exist similar networks of general practitioners in other European countries, there is the possibility of international registration and comparison[27], certainly since the registration of domestic violence can easily be repeated and/or adapted in this existing surveillance instrument.

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