



Injury and pain among a war-affected population in Mitrovicë District of Kosovo (II): baseline clinical and functional assessment and lasting effects on the health

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Background

Kosovo has suffered from many years of violent confrontation and from tensions between Albanian and Serbian communities. This study aimed to document pain and injury experience and investigates emotional well-being of victims of massive violence identified during a household survey in Mitrovicë district in Kosovo. To assess long-lasting effects for the physical fitness and social functioning of victims of massive violence, the physical health indicators such as body mass index (BMI), handgrip strength and standing balance were also measured. A further aim of this study is to suggest approaches for developing and monitoring rehabilitation programmes.

Methods

63 male and 62 female victims were recruited from a household survey (the result is presented in the Part I) for a detailed study. Interviews and physical examinations provided information about traumatic experiences and injuries. Baseline pain level was assessed using a 4-point pain frequency and intensity scale. Perceived emotional well-being was assessed by the "WHO-5 Well-Being" questionnaire. Height, weight, handgrip strength and standing balance performance were measured. Healthy controls (72 female and 57 male employees of public and private health facilities, matched as far as possible to the victims by sex and age, as well as residence location) were recruited for the same measurements.

Results

All of participants were Albanians (Table 1). Around 50% of the victims had experienced at least two types of torture methods and reported at least two injury locations. 50% of the victims reported forehead and head injury and 40% reported chest injury. 70% had moderate or severe pain and 92% reported constant or periodic pain within the previous two weeks (Table 2). Only 10% of the victims were in paid employment. Nearly 90% of the victims had experienced at least four types of emotional disturbances within the previous two weeks, and many had low scores for emotional well-being. This was found to be associated with severe pain within two weeks, higher exposure to violence and human rights violations and with a low educational level, unemployment and the absence of political or social involvement (Table 3).

Over two thirds of victims were overweight or obese. Only 19 victims managed to maintain standing balance (Table 4). They showed marked decline in handgrip strength (Table 5). Those who were employed or had a higher education level, who did not take anti-depressant or anxiety drugs and had better emotional well-being or no pain complaints showed better handgrip strength and standing balance.

Conclusions

The victims reported a high prevalence of severe pain and emotional disturbance. They showed high BMI and a reduced level of physical fitness. Education, employment, political and social participation were associated with emotional well-being. Interventions to promote physical activity and social participation are recommended. The results indicate that the rapid assessment procedure used here offers an adequate tool for collecting data for the monitoring of health interventions among the most vulnerable groups of a population exposed to violence.

Table 1) Socio-demographic profile of victims, n=125

Socio-demographic data	Variables	No. of victims (%)
Mitrovicë district	Mitrovicë municipality	40 (32.0)
	Skënderaj municipality	59 (47.2)
	Vushtrri municipality	26 (20.8)
Marital status	Single	8 (6.5)
	Married	98 (79.7)
	Divorced	17 (13.8)
Religion	None	2 (1.6)
	Muslim	123 (98.4)
Education level	None	18 (14.4)
	Primary	62 (49.6)
	Secondary	34 (27.2)
	College or university	8 (6.4)
	Post-graduate	1 (0.8)
	Other	2 (1.6)
Occupation	Not working	41 (32.8)
	Household work	40 (32.0)
	Business	1 (0.8)
	Service, journalist or teacher	11 (8.8)
	Pension	30 (24.0)
	Other	2 (1.6)
	Monthly income of individual	0 €
0<x≤50 €		28 (22.4)
50<x≤100 €		55 (44.0)
100<x≤200 €		15 (12.0)
200<x≤400 €		10 (8.0)
x>400 €		1 (0.8)
Have personal, financial or political conflict with people of other ethnicities	No	22 (82.4)
	Yes	103 (17.6)
Have ever participated in a demonstration, a strike or a human rights rally at some time	No	65 (52.0)
	Yes	60 (48.0)
Have family member who worked with Kosovo Liberation Army (KLA) or militia before or during the war in 1999	No	73 (58.4)
	Yes	52 (41.6)

Table 2) Experience of pain complaints and emotional disturbances reported by the victims, n=125

Pain severity within two weeks	Male (n)	Female (n)	Total (%)	Difference between male and female by Kolmogorov-Smirnov test corrected P value
No pain	3	4	7 (5.8)	P=0.925
Light pain	12	17	29 (24.2)	
Moderate pain	28	18	46 (38.3)	
Severe pain	17	21	38 (31.7)	
Pain frequency within two weeks	Male (n)	Female (n)	Total (%)	
Constant (all the time)	26	23	49 (45.4)	P=1
Periodic (one or more times a week)	24	26	50 (46.3)	
Occasional (less than once a week)	5	4	9 (8.3)	
Emotional disturbance within two weeks	Male (n)	Female (n)	Total (%)	
Anger	60	54	114 (91.2)	P=0.977
Aggressiveness	45	36	81 (64.8)	P=0.558
Crying	35	53	88 (70.4)	P<0.005
A feeling of being insulted	24	35	59 (47.2)	P=0.187
Hatred	33	43	76 (60.8)	P=0.263
Helplessness	42	47	89 (71.2)	P=0.936
Inferiority complex	39	42	81 (64.8)	P=1
Loss of interest	42	42	84 (67.2)	P=1
Memory loss	44	46	90 (72.0)	P=1
Police or military phobia	44	42	86 (68.8)	P=1
Sadness	27	46	73 (58.4)	P<0.005
Sexual dysfunction	37	31	68 (54.4)	P=0.956
Sleep disorder	49	51	100 (80.0)	P=1
Social isolation	43	41	84 (67.2)	P=1
Hopelessness	43	42	85 (68.0)	P=1

Table 4) Standing balance performance of victims, n=125

Standing balance mean (seconds)	Male: mean (95% CI)	Female: mean (95% CI)	Total mean (95% CI)	Difference between male and female by Kolmogorov-Smirnov test corrected P value
Right leg	11.8 (8.4-15.3)	11.3 (8.2-14.4)	11.6 (9.3-13.9)	P=1
Left leg	12.3 (8.9-15.8)	10.8 (7.9-13.7)	11.6 (9.3-13.8)	P=0.968
Standing balance performance	Male (n)	Female (n)	Total	
Right leg ≤30 seconds	56	58	114 (91.2%)	P=1
Left leg ≤30 seconds	57	56	113 (90.4%)	P=1

Table 3) Emotional well-being and its association with personal factors and health condition, generalized linear model

Variables (WHO-5 Well-Being<13, poor emotional well-being)	OR (95% CI)	P value
Have participated in demonstration, a strike or a human rights rally at some time	0.32 (0.13-0.78)	<0.05
Have conflict with people of other ethnicities	0.58 (0.21-1.60)	0.295
Exposure to 1-3 categories of organised crime or political violence	7.00 (1.17-41.76)	<0.05
Exposure to at least 4 categories of organised crime or political violence	8.44 (1.33-53.51)	<0.05
Number of torture methods experienced	1.12 (0.92-3.16)	0.258
Number of bodily injury reported by the victims	1.32 (0.76-2.32)	0.328
Always have fear of violence in the community vs. no fear of violence	8.84 (1.06-74.03)	<0.05
Having 1-3 types of emotional disturbances within 14 days vs. no emotional disturbance	2.40 (0.18-32.88)	0.512
Having at least 4 types of emotional disturbances within 14 days vs. no emotional disturbance	18.40 (1.95-173.53)	<0.01
Light pain within 14 days vs. no pain	4.09 (0.67-24.83)	0.126
Moderate pain within 14 days vs. no pain	16.67 (26.2-106.08)	<0.005
Severe pain within 14 days vs. no pain	13.33 (2.08-85.41)	<0.01
Taking medications against depression or anxiety	2.66 (1.12-6.33)	<0.05
Income level 0<x≤50 € vs. no income	0.43 (0.08-2.37)	0.332
Income level 50<x≤100 € vs. no income	0.51 (0.10-2.57)	0.416
Income level 100<x≤200 € vs. no income	0.57 (0.08-4.01)	0.573
Income level 200<x≤400 € vs. no income	0.14 (0.02-0.99)	<0.05
Income level >400 € vs. no income	0	-
Employment: service, journalist or teacher vs. not working	0.13 (0.27-0.63)	<0.05
Employment: pension vs. not working	0.25 (0.07-0.92)	<0.05
Education level	0.65 (0.43-0.98)	<0.05

Table 5) Health indicators for the group of victims and the group of health facility employees

Health indicators	Victims	Employees at health facilities
Body size	Male: mean (95% CI) Female: mean (95% CI)	Male: mean (95% CI) Female: mean (95% CI)
Height (cm)	168.6 (166.8-170.3) 155.3 (152.8-157.7)	175.7 (173.7-177.7) 164.4 (162.8-165.9)
Weight (kg)	77.8 (74.6-80.9) 71.9 (67.2-76.6)	79.7 (76.9-82.6) 70.3 (67.5-73.1)
Body mass index (BMI: kg/m ²)	Male: n (%) Female: n (%)	Male: n (%) Female: n (%)
BMI<16.5	0 1 (1.6)	0 0
16.5≤BMI<18.5	0 1 (1.6)	0 2 (2.8)
18.5≤BMI<25	18 (28.6) 15 (24.2)	21 (36.8) 28 (38.9)
25≤BMI<30	23 (36.5) 16 (25.8)	30 (56.2) 26 (36.1)
BMI≥30	19 (30.2) 28 (45.2)	6 (10.5) 16 (22.2)
Hand grip strength	Male: mean (95% CI) Female: mean (95% CI)	Male: mean (95% CI) Female: mean (95% CI)
Right hand (kg)	28.5 (25.2-31.7) 22.3 (20.0-24.6)	46.9 (45.1-48.8) 30.7 (29.5-31.9)
Left hand (kg)	27.1 (23.7-30.4) 20.2 (18.0-22.5)	45.0 (42.1-47.9) 27.6 (25.6-29.6)