

Physical and sexual violence, mental health indicators, and treatment seeking among street-based population groups in Tegucigalpa, Honduras

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ABSTRACT

Objective. To establish the prevalence of exposure to physical and sexual violence, mental health symptoms, and medical treatment-seeking behavior among three street-based subpopulation groups in Tegucigalpa, Honduras, and to assess the association between sociodemographic group, mental health indicators, and exposure to violence.

Methods. An anonymous, cross-sectional survey among randomly selected street-based adolescents, adults, and commercial sex workers (CSWs) was undertaken at the end of 2010 in Tegucigalpa. Médecins Sans Frontières (MSF) mapped places where the study population gathers. Stratified probability samples were drawn for all groups, using two-stage random sampling. Trained MSF staff administered on-site standardized face-to-face questionnaires.

Results. Self-reported exposure to severe physical violence in the previous year was 20.9% among street-based adolescents, 28.8% among adults, and 30.6% among CSWs. For the physical violence event self-defined as most severe, 50.0% of the adolescents, 81.4% of the adults, and 70.6% of the CSWs sought medical treatment. Their exposure to severe sexual violence was 8.6%, 28.8%, and 59.2%, respectively. After exposure to the self-defined most severe sexual violence event, 14.3% of adolescents, 31.9% of adults, and 29.1% of CSWs sought treatment. Common mental health and substance abuse symptoms were highly prevalent and strongly associated with exposure to physical (odds ratio 4.5, $P < 0.0001$) and sexual (odds ratio 3.7, $P = 0.0001$) violence.

Conclusions. Exposure to physical and sexual violence reached extreme levels among street-based subpopulations. Treatment-seeking behavior, particularly after severe sexual violence, was limited. The association of mental health and substance abuse symptoms with exposure to violence could lead to further victimization. Medical and psychological treatments targeting these groups are needed and could help decrease their vulnerability.

Key words

Violence; sexual violence; mental health; vulnerable populations; urban health; Honduras.

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Honduras has reported the highest homicide rates in Central America since 2008 and reached a national homicide rate of 77.5 per 100 000 population in 2010 (1–3). Violence is concentrated in two departments: Cortes and Distrito

Central. These departments' main cities, San Pedro Sula and Tegucigalpa, concentrate 23.0% of the Honduras population and 33.6% of the country's homicides—17.0% and 16.6%, respectively (3). Socioeconomic factors associ-

ated with raising levels of violence in urban settings are a reality in Honduras (4–9). About one-third of the people are underemployed, more than three in five live below the poverty line, and 30% are between the ages of 15 and 30 years (10, 11). In this context, 7 of 10 Hondurans reported the cities' streets as the nation's most dangerous place (12).

Violence in urban settings is a public health problem (13) with considerable social consequences (14). In 2001, the main referral hospital in Tegucigalpa treated 1228 nonfatal injuries caused by violence (15). By 2009, the number had risen to 5421, a 4.4-fold increase (16). Although the actual number of people suffering the consequences of violence in Honduras is not available, it is certain to exceed the number of people attending medical facilities, as only a small percentage of victims seek medical care (17–19). Furthermore, public health service provision in Honduras is limited by a lack of trained health professionals (20).

Street-based populations are particularly vulnerable to violence and abuse (21–23). Increased risks faced by street-based population groups toward experiencing violence have been documented in different settings (21, 24–26). In Tegucigalpa, high levels of distress were documented among street-based adolescents and youth (22), but no data on the factors associated with exposure to violence in the population groups studied were available in Honduras. This information would allow for identifying the health services these most at-risk population groups require.

This paper reports on a quantitative survey measuring exposure to physical and sexual violence, the sociodemographic and mental health indicators associated with such exposure, and the medical treatment-seeking behavior of three subpopulations of street-based people in Tegucigalpa.

MATERIALS AND METHODS

Mapping and sampling

In August and September 2010, formative research and medical street outreach teams identified a variety of subpopulations of street-based people in Tegucigalpa. These people spent most of their day in the street and were identified based on their self-reported experience of the open space being one of margin-

alization due to their main source of income: selling drugs, petty crime, selling sex, and recycling waste. Marginalization was used as the main selection criterion among street-based people for its documented association with increased exposure to violence (27–29). A qualitative study was conducted among street-based adolescents, adults, and elderly and street-based male, female, and transvestite commercial sex workers (CSWs) (referred to in this paper collectively as CSWs); it was decided that quantitative surveys should be conducted among three subpopulations: adolescents (10 to 18 years old), adults (18 to 72 years old), and CSWs.

Médecins Sans Frontières (MSF) medical street outreach teams mapped the locations where these populations gathered to meet their peers and where commercial sex, drug selling, and recycling activities took place. These places were visited at least once a week for one month; basic medical services were provided and health information and individual codes were assigned to each street-based person, specifying the subpopulation group each person belonged to. Sample frames were drawn for 25 locations, weighted for peak gathering times, and stratified by subpopulations. The sampling universe was estimated through capture–recapture methods, facilitated by the individual codes recorded during the mapping phase. This method is widely used for population estimates of hard-to-reach population groups (30). The final sampling frame consisted of 1743 street-based people (highest estimate 2499, lowest estimate 987). The study's sample size was maximized with an estimated prevalence of 50%, a 5% significance level, and an estimated precision of 5%. The initial calculation of 384 participants was adjusted with a correction factor of 1.22 due to the limited target population size, resulting in a final sample size of 314. The overall sample was divided proportionally to each subpopulation stratum size, with 92 adolescents, 167 adults, and 55 CSWs.

Fifteen locations were randomly selected, with probability of selection proportional to the population size. In each selected location, eligible subjects from each stratum were invited to participate in the study. Systematic sampling was used to select participants, with a skip interval of three. They were approached by trained field interviewers, who ex-

plained the study purposes and procedures. No differences between subpopulation strata were found for the refusal rate, which was low, at 9%. A total of 283 street-based people were included in the analysis.

Data collection procedures and instruments

At each data collection location, interviewers explained the study procedures, answered questions, and sought informed consent before enrolling participants. A study supervisor answered any remaining questions about informed consent and the study's purposes and oversaw the data collection procedures. The study was anonymous, with individual questionnaires identified by a unique code. Interviewers administered a pretested, structured questionnaire that needed an average of 30 minutes for completion and included successive modules on sociodemographics, mental health, exposure to physical and sexual violence, and medical treatment-seeking behavior.

Exposure to physical violence during the previous year and medical treatment-seeking behavior were assessed by the World Health Organization's questionnaire on violence surveillance at the community level, adapted for an individual self-report (31). Exposure to severe physical violence was defined as having suffered at least one physical assault in which the victim was stabbed, hit with objects, shot, or burned by one or more aggressors.

Previous year exposure to sexual violence and medical treatment-seeking behavior were explored by using the questionnaire on sexual- and gender-based violence produced by the Reproductive Health Response in Crisis Consortium (32). Participants who reported having been raped, as defined by the World Health Organization (33), or forced to observe somebody being sexually assaulted at least once during the previous year were categorized as having suffered severe sexual violence.

Data on mental health indicators were collected with the Composite International Diagnostic Interview (CIDI) (34), a comprehensive, fully structured interview to be used by trained lay interviewers for assessing mental disorders according to the International Classification of Diseases (ICD-10) and

the *Diagnostic and Statistical Manual of Mental Disorders* (35). CIDL, version 2.1, validated in Latin America (36, 37), was used to screen for symptoms of common mental health disorders, substance abuse, and severe mental health disorders. Use of a psychoactive substance at least once in the previous month was categorized as substance use, and use of the substance at least once a week in the preceding month was indicative of substance abuse.

Data analysis

Data were double-entered using Epi-Info 3.5.1 and analyzed using Stata 10.1 software. Differences in proportions were tested using Pearson's χ^2 statistics and odds ratios were calculated and compared using the Maentel-Haenszel test for homogeneity of the odds. Weighted logistic regression analysis taking into account the sampling plan was performed to identify independent correlates of ex-

posure to physical and sexual violence in the previous year. Variables with a liberal *P* value (< 0.20) were candidates for entering the multivariate model. Such a model was built using a backward procedure based on the log-likelihood ratio test with a *P* value to remove > 0.05 .

Ethical considerations

No monetary compensation was provided for participation. Participants received a snack at completion of the interview and verbal or written information about available medical and psychological services. Those reporting mental health conditions or exposure to violence with medical or psychological care indication were referred to appropriate, free-of-charge, MSF-supported health structures. Following national regulations on the rights of people under age, only adolescents over the age of 12 years were included in the study (38). Their informed consent included notification of

conditions under which confidentiality would be broken and the case would be reported to competent authorities.

The study was approved by the MSF Institutional Review Board, the Honduran Ministry of Health, and Tegucigalpa's Municipality. It was conducted between October and November 2010. Permission to publish was granted by the MSF Ethical Review Board.

RESULTS

Sociodemographic indicators

Final analysis included 283 participants: 81 adolescents (72.8% male), 153 adults (69.3% male), and 49 street-based CSWs (85.7% female). Interviewees were mostly males (59.7%), 20 to 30 years of age (36.6%), with primary education (51.3%), and born in the metropolitan area (62%). As shown in Table 1, childhood experiences of physical abuse were more likely to be reported by adults and CSWs

TABLE 1. Exposure to violence, sociodemographic group, and mental health indicators, by sex and street-based subpopulation, Tegucigalpa, Honduras, October and November 2010

Indicator	Adolescents						Adults						CSWs ^a		<i>P</i> value ^b
	Male (<i>n</i> = 59)		Female (<i>n</i> = 22)		All (<i>n</i> = 81)		Male (<i>n</i> = 106)		Female (<i>n</i> = 47)		All (<i>n</i> = 153)		All (<i>n</i> = 49)		
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	
Exposure to violence in past year															
Any physical violence	37	62.7	11	50.0	48	59.2	69	65.1	30	63.8	99	64.7	35	71.4	0.36
Severe physical violence	16	27.1	1	4.5	17	20.9	33	31.1	11	23.4	44	28.8	15	30.6	0.07
Any sexual violence	25	42.3	11	50.0	36	44.4	52	49.1	29	61.7	81	52.9	44	89.8	< 0.0001
Severe sexual violence	3	5.1	4	18.2	7	8.6	30	28.3	20	42.6	44	28.8	29	59.2	< 0.0001
Sociodemographic															
Born in metropolitan area	42	71.1	15	68.2	57	70.3	55	51.9	32	68.1	87	56.9	32	65.3	0.11
No formal schooling	24	40.6	7	31.8	31	38.3	26	24.5	22	46.8	48	31.4	11	22.4	0.17
Physical abuse in childhood	25	42.4	10	45.5	35	43.2	63	59.4	32	65.3	95	62.1	36	73.5	0.001
Slept in streets more than half the nights in the month	17	28.8	2	9.1	19	23.5	44	41.5	6	12.8	50	32.7	8	16.3	0.06
Mental health															
Depressive episode symptoms in past year	11	18.6	6	27.3	17	20.9	56	52.8	28	59.8	84	54.9	24	48.9	< 0.0001
Generalized anxiety symptoms in past year	8	13.5	6	27.3	14	17.3	50	47.2	27	57.4	77	50.3	29	59.2	< 0.0001
Suicidal behavior in life	12	20.3	8	36.4	20	24.7	43	40.6	19	40.4	62	40.5	31	63.3	< 0.0001
Severe mental health or neurological (epilepsy) symptoms in life	17	28.8	11	50.0	28	34.6	45	42.5	22	46.8	67	43.8	19	38.8	0.37
Substance use or abuse in past month															
Alcohol abuse	3	5.1	1	4.5	4	4.9	19	17.9	1	2.1	20	13.1	3	6.1	0.08
Marihuana abuse	12	20.3	3	13.6	15	18.5	21	19.3	4	8.5	25	16.3	4	8.2	0.26
Any substance use	30	50.1	9	40.9	39	48.1	52	49.1	14	29.8	66	43.1	26	53.1	0.61
Solvents	25	42.3	8	36.4	33	40.7	39	36.8	10	21.3	49	32.0	13	26.5	0.22
Cocaine	6	10.1	0	0.0	6	7.4	14	13.2	1	2.1	15	9.8	9	18.4	0.14
Crack cocaine	10	16.9	4	18.2	14	17.3	27	25.5	6	12.8	33	21.6	12	24.5	0.57
Any substance abuse	28	47.4	6	27.3	34	41.9	45	42.5	11	23.4	56	36.6	22	44.9	0.75
Solvents	25	42.3	5	22.7	30	37.0	34	32.1	8	17.0	42	27.4	10	20.4	0.11
Cocaine	4	6.7	0	0.0	4	4.9	5	4.7	1	2.1	6	3.9	6	12.2	0.15
Crack cocaine	7	11.8	2	9.1	9	11.1	17	16.0	5	10.6	21	13.7	12	24.5	0.16

Note: CSW: commercial sex worker.

^a CSW subpopulation group was not distributed by sex due to reduced sample size and dominance by women (85.6%).

^b Probability that there is no significant difference between adolescents, adults, and CSWs, Pearson's χ^2 statistic.

($P = 0.001$), although nearly half of the adolescents also reported it. No other statistically significant difference was found between subpopulation groups; it was only marginally more frequent for adults to have slept in the streets more than half the nights in the month ($P = 0.06$). No significant sociodemographic differences were found between respondents and nonrespondents (No. = 25).

Exposure to physical and sexual violence and mental health indicators

As Table 1 shows, 182 (64.3%) of the respondents declared having been exposed to physical violence during the year preceding the survey, with exposure similarly distributed among all subpopulation groups. Once severity of the physical assault was accounted for and subpopulation groups were stratified by sex, adolescent and adult males showed higher rates of exposure.

Exposure to sexual violence during the previous year was reported at consistently high levels by all subpopulation groups, experienced by 1 of every 2 adults (52.9%) and adolescents (44.4%) and by 9 of every 10 street-based CSWs (89.8%). Taking into consideration the severity of the sexual assaults, exposure rates declined among all subpopulation groups. Still, 18.2% of female adolescents, 28.3% of male adults, and 42.6% of female adults reported having suffered severe sexual violence in the previous year. Street-based CSWs reported significantly higher levels of exposure to severe sexual violence, 59.2% ($P < 0.0001$).

As shown in Table 1, symptoms of common mental health disorders were highly prevalent in all groups, although

adults and street-based CSWs reported higher rates than adolescents in the previous 12 months. Once subpopulation groups were stratified by sex, reported rates of common mental health disorders' symptoms were higher among female participants. Lifetime self-reported suicidal behavior was reported by all subpopulation groups but was highest among street-based CSWs.

Substance use and abuse symptoms were extremely high across all groups but significantly higher among male adolescents and adults as well as street-based CSWs. Solvents and crack cocaine were the substances of choice across all groups.

Self-identified severity of exposure to physical and/or sexual violence and treatment seeking

Respondents who reported having suffered any kind of physical violence during the previous year were asked to identify the physical assault they considered as the most severe among those they suffered. Seventy-four (40.6%) identified an assault in which they were stabbed, hit with objects, shot, or burned by one or more aggressors as the most severe. All of them were injured during the assault and, eventually, 54 (72.9%) sought medical services. No adolescent, 12 (27.9%) adults, and 4 (23.5%) street-based CSWs sought treatment within one hour of the severe physical assault, as shown in Table 2. The medical structure most visited after severe physical assaults was the referral hospital in Tegucigalpa (64.8%), followed by nongovernmental organizations (16.6%).

The main reported reason (46%) for not seeking medical services after the

self-identified most severe physical attack suffered in the previous year was believing that they did not need it.

With regard to the most severe sexual assault experienced the previous year, 85 (53%) reported such a severe sexual violence event, as shown in Table 3; 76 (48%) were episodes of rape. One woman reported becoming pregnant as a consequence of that particular episode. Of those reporting a severe sexual violence assault as the most severe event suffered, 7 (8.2%) were adolescents, 47 (55.3%) were adults, and 31 (36.5%) were street-based CSWs. Only 24 (28.2%) sought medical attention; among them, 1 (4.2%) was adolescent, 14 (58.3%) were adults, and 9 (37.5%) were CSWs. As Table 3 shows, percentages were lower once the time between the assaults and attending a medical facility were considered. No adolescent, 15.4% of male adults, 33.3% of female adults, and 29.1% of CSWs sought medical care within 72 hours of the severe sexual assault. The medical facility where most people sought care was reported to be nongovernmental organizations (44%), followed by public health centers (32%).

Reasons for not seeking care were believing they did not need it (37%), being ashamed (15%), not knowing where to go (13%), and fear of the aggressor's retaliation (13%). Among those who reported rape as the most severe event, the main reason they provided for not seeking care was believing they did not need it (37%).

Exposure to violence and associated conditions

In multivariate analysis, after controlling for subpopulation groups, strong associations were documented between so-

TABLE 2. Self-identification of severe physical violence as most severe assault suffered and medical treatment seeking, by sex and street-based subpopulation, Tegucigalpa, Honduras, October and November 2010

Indicator	Adolescents						Adults						CSWs ^a		P value ^b
	Male (n = 13)		Female (n = 1)		All (n = 14)		Male (n = 29)		Female (n = 14)		All (n = 43)		All (n = 17)		
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	
Severe physical violence self-identified as most severe event suffered in past 12 months															0.08
Did not seek medical care	6	46.2	1	100.0	7	50.0	3	10.3	5	35.7	8	18.6	5	29.4	
Timely arrival to medical facility (< 1 hour)	0	0.0	0	0.0	0	0.0	10	34.5	2	14.3	12	27.9	4	23.5	
Late arrival to medical facility (> 1 hour)	7	53.8	0	0.0	7	50.0	16	55.2	7	50.0	23	53.5	8	47.1	

Note: CSW: commercial sex worker.

^a CSW subpopulation group was not distributed by sex due to reduced sample size and dominance by women (85.6%).

^b Probability that there is no significant difference between adolescents, adults, and CSWs, Pearson's χ^2 statistic.

TABLE 3. Self-identification of severe sexual violence as most severe assault suffered and medical treatment seeking, by sex and street-based subpopulation, Tegucigalpa, Honduras, October and November 2010

Indicator	Adolescents						Adults						CSWs ^a		P value ^b
	Male (n = 3)		Female (n = 4)		All (n = 7)		Male (n = 26)		Female (n = 21)		All (n = 47)		All (n = 31)		
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	
Severe sexual violence self-identified as most severe event suffered in past 12 months															0.18
Did not seek medical care	2	66.7	4	100.0	6	85.7	20	76.9	13	61.9	33	70.2	22	70.9	
Timely arrival at medical facility (< 72 hours)	0	0.0	0	0.0	0	0.0	4	15.4	7	33.3	10	21.3	9	29.1	
Late arrival at medical facility (> 72 hours)	1	33.3	0	0.0	1	14.3	2	7.7	1	4.8	4	8.5	0	0.0	

Note: CSW: commercial sex worker.

^a CSW subpopulation group was not distributed by sex due to reduced sample size and dominance by women (85.6%).

^b Probability that there is no significant difference between adolescents, adults, and CSWs, Pearson's χ^2 statistic.

TABLE 4. Maentel-Haenszel odds ratios of exposure to violence by various behavioral, mental health, and previous life experience indicators (N = 283), street-based subpopulation, Tegucigalpa, Honduras, October and November 2010

Indicator	Physical violence			Sexual violence			Physical or sexual violence		
	OR	95% CI	P value	OR	95% CI	P value	OR	95% CI	P value
Slept in street more than half the nights in the month	2.86	1.50–5.44	0.0008	1.26	0.73–2.16	0.41	3.74	1.51–9.28	0.0023
Depression/anxiety axis symptoms in past month	2.40	1.43–4.02	0.0006	3.73	2.19–6.37	< 0.0001	4.53	2.33–8.80	< 0.0001
Any severe mental health disorder symptoms in life	2.85	1.63–4.97	0.0001	2.81	1.66–4.76	0.0001	4.63	2.10–10.18	< 0.0001
Any substance use in past month	2.32	1.34–4.00	0.002	2.25	1.34–3.77	0.0015	3.43	1.65–7.14	0.0004
Any substance abuse in past month	2.57	1.51–4.39	0.0003	2.57	1.54–4.28	0.0002	3.68	1.83–7.41	0.0001
Physical abuse in childhood	3.81	2.21–6.55	< 0.0001	1.96	1.20–3.21	0.0064	5.37	2.69–10.73	< 0.0001

Note: OR: odds ratio, CI: confidence interval. All odds ratios are for "yes" on the variable in question, with "no" = 1.

ciodemographic indicators, mental health indicators, and self-reported experience of physical violence the year preceding the study. As shown in Table 4, a strong relation was found between sleeping in the street more than half the nights in a month and reported experience of physical violence. Those reporting sleeping in the street were 2.9 times more likely to report physical violence in the previous year than those not doing so ($P = 0.0008$).

Respondents who described having suffered some kind of physical abuse during childhood were much more likely to report exposure to physical violence than those who did not report it ($P < 0.0001$). They were also more likely to report having experienced sexual violence the previous year. Those respondents declaring childhood abuse showed nearly twice the odds for reporting sexual violence ($P = 0.0064$) and were 5.4 times more likely to report physical and/or sexual violence than those not mentioning childhood abuse ($P < 0.0001$).

A very strong association between mental health indicators and exposure

to violence—physical and/or sexual—was found. Participants reporting mental health symptoms of depression/anxiety were 2.4 times more likely to report exposure to physical violence ($P = 0.0006$), 3.7 times more likely to report exposure to sexual violence ($P < 0.0001$), and 4.5 times more likely to report having experienced exposure to either of them ($P < 0.0001$). Those respondents reporting having experienced severe mental health symptoms in life were 2.8 times more likely to report exposure to physical violence ($P = 0.0001$), 2.8 times more likely to report exposure to sexual violence ($P = 0.0001$), and 4.6 times more likely to report having experienced exposure to either physical or sexual violence ($P < 0.0001$).

Finally, participants reporting any substance abuse during the month preceding the study were more likely to report exposure to violence in the previous year. After stratified analysis of subpopulation groups, the odds for reporting having suffered physical violence were found to be 2.57 times higher among substance abusers ($P = 0.0003$),

the odds for reporting sexual violence were 2.3 times higher ($P = 0.0002$), and the odds for reporting either physical or sexual violence were 3.7 times higher than among participants who did not report substance abuse in the month preceding the study ($P = 0.0001$).

DISCUSSION

This survey found extremely high levels of exposure to physical and sexual violence among street-based people in Tegucigalpa. Nearly half the adolescent and adult males interviewed reported having suffered at least one episode of severe physical violence in the previous year, and more than two of every three street-based CSWs reported having suffered severe sexual violence. Increased rates of sexual violence and mental health symptoms found among street-based CSWs and female participants are consistent with information in the international literature (39–41).

This study provides evidence for several risk correlates to the experience of

violence, such as reporting symptoms of common mental health disorders, substance abuse, and referring childhood experiences of physical violence. Results are consistent with the international literature and alert us to the health impact of exposure to violence (42–45). We argue that some of those health consequences further increase the vulnerability of street-based populations to revictimization. Although no temporal sequence can be established through this particular study design, the very significant differences found in the levels of violence suffered the previous year by street-based people reporting symptoms of mental health disorders compared with those who did not point to a reciprocal relation between exposure to violence and its health consequences. These findings lend support to interventions that address mental health and drug abuse issues among street populations as a key strategy to reduce their increased risk of suffering recurrent violence.

However, access to required treatment is hampered by a lack of medical treatment-seeking behavior among all subpopulation groups. Close to half the people interviewed did not seek medical service after exposure to severe physical violence, and more than four of every five participants did not seek medical care after exposure to severe sexual violence. Few medical services are accessed and used by this population and the severity of the violent event suffered shows little correlation to medical treatment-seeking behavior, particularly with regard to sexual violence. This behavior, or lack of it, together with their reporting not needing the services as a main reason for not seeking care, might indicate that violence and the suffering it carries have been “normalized” or subjugated to other personal needs (46). Honduran government policy has recognized the need for public health interventions to alleviate the health consequences of violence in the general population (47). However, there are an acute shortage of qualified health professionals, constraints in the current provision of basic health and social services, and inherent challenges in creating effective programs targeting street-based population groups (20, 22, 48).

These results reveal important information about treatment of the physical and mental health consequences of violence but also open a door for the prevention of revictimization among street-

based populations. Given the strong association between mental health and substance abuse disorders and exposure to physical or sexual violence, there is a critical need for improved access to integrated medical and psychological services among this population. Alternative service delivery modes such as outreach and community-based interventions are novel, localized initiatives in Honduras (22) but are advocated and successful in other countries in the Americas (49, 50). Health initiatives targeting street-based populations will need to proactively work to promote and facilitate timely access to medical services.

Furthermore, from a regional perspective, Honduras generates an estimated 100 000 migrants who leave their country every year and head to the United States of America (51). Anecdotal evidence gathered by MSF both at origin and in border areas point to the increasing importance of violence in the country of origin as a migration “push” factor. Also, predeparture health conditions are being increasingly recognized as a determinant of negative outcomes in transit and at the country of destination (52).

This study has some limitations. First, although labor-intensive mapping was undertaken and the sample was chosen randomly, high population mobility limited the possibility of an exhaustive sampling frame. Final sample sizes were limited and did not allow for the gender stratification of street-based CSWs. It is therefore difficult to extrapolate the results of this study to all the street-based population in Tegucigalpa. However, stratified subpopulation samples were randomly drawn and are likely to represent subpopulation groups’ characteristics. Overall refusal rates were low in all groups and no differences were found with nonrespondents, reducing the likelihood of selection bias.

Information collected for this study is based on self-reporting, raising the possibility of recall and respondent bias. This could have played a role in the case of adolescents included in the study, who were informed that confidentiality would be broken if they declared any physical or sexual assault requiring MSF to report the event. Their reluctance to report the event might have underestimated exposure rates among this group. An inherent limitation of the subject studied is that respondents have differ-

ent competence and sensitivity when reporting exposure to violence and mental health difficulties (53). Screening tools that are valid in a range of non-Western cultures and low- and middle-income countries, but with no clinical validation in Honduras, were used. The methodological strength of this study lies in the use of several instruments, with attention to cross-cultural reliability and validity (31, 32, 34). Aware of the debate on the relevance of absolute thresholds for mental health screening tools across cultures, we focused on an objective description of indicators for common mental problems. Interviewers were specifically trained and paid careful attention to issues of communication, rapport, time, and privacy in an attempt to limit the potential impact of these biases.

On the basis of these conclusions, MSF has expanded its medical humanitarian approach in Tegucigalpa in an attempt to breach the gap between the needs of these populations and existing services by reinforcing integrated medical and psychological care at public health structures and supporting the continuity of care for victims. Public health interventions targeted to most at-risk populations have proven to maximize the impact of scarce resources (54, 55). The magnitude and diversity of the biopsychosocial needs derived from the extreme levels of violence suffered by the studied population grant a greater involvement of the most affected communities, population groups, nongovernmental organizations, and national and municipal health authorities. From these joint efforts, an inclusive and comprehensive action plan should arise to address the medical and psychological needs of an increasing number of violence victims, who should no longer be ignored.

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RESUMEN

Violencia física y sexual, indicadores de salud mental y búsqueda de tratamiento en grupos de población en situación de calle en Tegucigalpa, Honduras

Objetivo. Establecer la prevalencia de la exposición a la violencia física y sexual, los síntomas relacionados con la salud mental, y las conductas de búsqueda de tratamiento médico en tres grupos de subpoblaciones en situación de calle en Tegucigalpa, Honduras, y evaluar la asociación entre el grupo sociodemográfico, los indicadores de salud mental y la exposición a la violencia.

Métodos. A fines del 2010 en Tegucigalpa se llevó a cabo una encuesta transversal, de carácter anónimo, en adolescentes, adultos y trabajadores del sexo en situación de calle, seleccionados aleatoriamente. La organización Médicos sin Fronteras (MSF) elaboró mapas de los lugares donde se reunía la población del estudio. Se obtuvieron muestras probabilísticas estratificadas de todos los grupos, empleando un muestreo aleatorizado bietápico. Personal capacitado de MSF administró cuestionarios estandarizados de manera presencial en el lugar.

Resultados. La exposición a violencia física grave en el año anterior, según lo notificado por los propios entrevistados, fue de 20,9% en los adolescentes, de 28,8% en los adultos y de 30,6% en los trabajadores del sexo. Después del acto de violencia física autodefinido como el más grave, buscaron tratamiento médico 50,0% de los adolescentes, 81,4% de los adultos y 70,6% de los trabajadores del sexo; su exposición a violencia sexual grave fue de 8,6%, 28,8% y 59,2%, respectivamente. Después de la exposición al acto de violencia sexual autodefinido como el más grave, buscaron tratamiento 14,3% de los adolescentes, 31,9% de los adultos y 29,1% de los trabajadores del sexo. Los síntomas comunes relacionados con la salud mental y el abuso de drogas fueron sumamente prevalentes y se asociaron estrechamente con la exposición a la violencia física (razón de posibilidades 4,5, $P < 0,0001$) y sexual (razón de posibilidades 3,7, $P = 0,0001$).

Conclusiones. La exposición a la violencia física y sexual alcanzó niveles extremos en las subpoblaciones en situación de calle. Las conductas de búsqueda de tratamiento, en particular después de un episodio de violencia sexual grave, fueron limitadas. La asociación de síntomas relacionados con la salud mental y el consumo de drogas con la exposición a la violencia podría ocasionar una mayor victimización. Se requieren tratamientos médicos y psicológicos enfocados a estos grupos, que podrían ayudar a reducir su vulnerabilidad.

Palabras clave

Violencia; violencia sexual; salud mental; poblaciones vulnerables; salud urbana; Honduras.