



Health care providers' perceptions and practices of screening for domestic violence in Upper Egypt



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ABSTRACT

Objectives: To explore the attitude of health care providers about screening for and dealing with domestic violence in the health care setting and to assess the physicians screening behavior.

Methods: We surveyed physicians and nurses working in different departments of Assiut University Hospital using a self-administered questionnaire. Two focus group discussions with physicians and nurses were also conducted.

Results: 44.3% and 46.5% of physicians and nurses mentioned time constraints as a barrier for DV screening. Physicians believed that it is not important to screen for DV because it is a socially accepted problem and because of the unavailability of the necessary referrals to help victims (30.2% and 20.0%, respectively). The unsuitability of the outpatient clinics to screen for DV was also mentioned by 65.6% and 75.5% of physicians and nurses respectively. Only 36.7% of physicians perceived having the communication skills to facilitate disclosure of DV exposure. Regarding practice, only 35.0% of physicians have screened for DV in the three months preceding data collection. Urban residence, perception of the negative health consequence of DV exposure and perception of the physicians to have the required communication skills predicted positive attitude towards DV screening, while feeling distressed to discuss exposure to DV was associated with negative physicians' attitude.

Conclusion: In-service training of health care providers to identify and manage victims of DV and establishing supportive system would have great implications for reducing the physical and mental negative consequences of DV exposure.

Introduction

Domestic violence (DV) against women has become a leading public health concern, as it is a major contributor to physical and mental ill health of women with vast social and economic costs [1,2]. In Egypt, violence against women is highly prevalent. The latest Egypt Demographic and Health Survey (EDHS) found that 30 percent of ever-married women reported exposure to some form of spousal violence and more than 1 in 3 women who experienced spousal physical or sexual violence were injured as a result of the violence [3].

The adverse health effects of violence lead the abused women to make extensive use of health care resources [4]. Victims of DV often seek treatment for their problems at emergency departments, primary care clinics, and physician's offices. While health care providers may be successful at treating the acute physical effects, they rarely link these effects to violence [5].

The health sector has been recognized internationally to have a key role in screening for and managing DV and the healthcare providers are

increasingly encouraged to routinely screen for violence, especially when clinical indicators of abuse are present [6–8]. Primary care physicians are well positioned to care for violence victims; as they can identify DV while providing care for women and their children, offer continuity of care, and refer for further management or assistance [5]. Identifying victims, or potential victims, for the purpose of both prevention and intervention may serve to reduce many of the detrimental physical and mental health sequelae of DV [9]. However, the crucial role of the health care providers and services to address violence is not usually implemented [10].

Few DV victims are identified within healthcare settings due to several factors including inadequate training of healthcare providers, lack of awareness, shortage of time, unwillingness of women to disclose their exposure to violence and the perception of DV as a social issue peripheral to health care providers' responsibilities [11–13].

After the Egyptian revolution, the first article concerned with protection of women against all forms of violence was introduced in the 2014 Egyptian constitution, which was followed by enactment of laws

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defining penalties for perpetrators. However, there are not any specific laws in Egypt concerning the reporting of domestic violence. Moreover, physicians and nurses do not receive any specific curricula or training in the medical schools concerning dealing with cases of domestic violence and proper reporting.

Since health care providers, including physicians and nurses, are frequently the first in the community to encounter the battered woman [10], we aimed to assess their perceptions and practices of screening for DV and to identify predictors of their attitude and behavior of screening for DV in Assiut University Hospital as the main hospital serving Upper Egypt. Assiut University Hospital is located in Assiut city and serves about a million patients per year from different governorates. Findings of the study would help to develop implications for practice and guidelines for application in the health care facilities and suggest the required training curriculum.

Participants and methods

A mixed method approach combining quantitative and qualitative study designs was used.

The quantitative part of the research was a survey on Assiut University Hospital physicians and nurses. The study was carried out in some departments which were selected based on the high probability of these departments to come in contact with violated women; such as Gynecology/ Obstetrics, General medicine, Tropical Medicine, General Surgery, Plastic Surgery, Neurology and Psychology, Orthopedic and Ear, Nose and Throat departments. We invited all the residents and assistant lecturers working in the selected departments to participate in the study. However, out of 210 distributed questionnaires, we received only 122 complete ones. A sample of 200 nurses was also obtained from the previously mentioned departments. All nurses asked to participate in the study agreed and returned the questionnaires in time.

Data was collected using a semi-structured questionnaire with preserving the anonymity of the participants. The study participants were contacted with telephone calls, visits to the outpatient clinics or departments and through the secretary workers of the departments to encourage their participants in case of delayed responses. However, there was a low response rate of the physicians (58.1%).

The questionnaire was divided into five sections:

- The first section included the socio-demographic data of the participants.
- The second section included questions to measure the knowledge of the participants regarding the health problems resulting from DV, the perception of their roles in dealing with cases of DV, the participants' information about the non-governmental organizations (NGOs) working in the field of DV and items assessing system support such as the presence of a written protocol in the department to deal with cases of DV, the presence of a camera to document DV in the outpatient clinics, availability of guidelines and health education materials about DV and the received training about DV.
- The third section assessed the physicians and nurses attitude towards screening for violence using 11 statements on a 5-point Likert-scale. The questions of the scale were derived from previously tested attitudinal scale [14]. Higher scores indicated positive attitude.
- The fourth and fifth sections were only included in the physicians' questionnaires. The fifth section assessed the physicians' ability to deal with cases of violence using statements measuring the physician skills to screen for, identify, and deal with cases of DV. The fifth section assessed the physicians practice; the frequency of screening for DV in the three months preceding data collection, the clinical conditions in which screening for violence was performed and writing medico-legal reports for the violated cases.

Two focus group discussions (FGDs) were conducted; the first one

with 12 physicians and the second with 10 nurses working in Assiut University hospital. Physicians and nurses were recruited through invitations directed to the heads of different departments in the University Hospital asking for recommending one or two physicians and a similar number of nurses from each department for participation in focus group discussions with brief explanation of the study objectives. FGD guides with open-ended questions were used. The discussions were carried out by the researchers themselves and were audiotaped after obtaining a verbal informed consent from the participants. The FGDs lasted between 60 and 90 min.

The FGDs included the following topics: domestic violence knowledge, role of physicians and nurses in dealing with domestic violence, identification and management of DV cases, barriers for DV screening and facilities provided in the hospital for dealing with such cases.

Statistical analysis

Data entry and statistical analysis were done by using IBM SPSS software, version 21.0. Descriptive statistics of the study sample was performed in the form of frequencies to describe the sample characteristics, physicians' and nurses' attitude about screening for DV and the screening practices of physicians. Attitude score was calculated using 11 statements reflecting negative attitudes towards screening for DV along a 5 point Likert scale. Scoring was graded from score "1" given to "strongly agree" responses, to score "5" given to "strongly disagree" responses, with higher score reflecting more positive attitude. All scores were summed and the means score was calculated. For the descriptive presentation of frequencies of these responses, "Agree" and "Strongly agree" responses of the Likert scale were recoded as "Agree" while "Disagree" and "Strongly disagree" responses were recoded as "Disagree". Multivariable linear regression analysis was performed to identify the predictors of positive attitude of physician and nurses towards screening for DV and logistic regression analysis was performed to identify the predictors of physicians screening practice of DV. In all statistical tests used, statistical difference considered significant when P-value was less than 0.05.

As for the qualitative analysis, audio files and notes from the FGDs were transcribed and data analysis was performed using the inductive thematic analysis methodology. The transcripts were read repeatedly, and the raw data were coded thematically. All codes were then clustered into themes and sub-themes.

Ethical considerations

The research was approved by the Ethics Committee of Assiut University. Administrative approvals were obtained from the Dean of the Faculty of Medicine and the Director of Assiut University Hospital. In addition, the purpose and importance of the research were discussed with the heads of the selected departments and written approvals were obtained from them. An informed consent was obtained from the study participants at the first page of the questionnaire.

Results

Socio-demographic characteristics

Table 1 shows the demographic data and working conditions of the participants. The physicians and nurses participants had a mean age of (27.77 ± 2.75 and 28.54 ± 8.71), respectively. Of the participating physicians, (77.9%) were males and (22.1%) were females. On the contrary for nurses, the larger proportion was for females, as they represented (94%) compared to (6%) of males. Also, (36.1%) of physicians were married compared to (51.5%) of nurses. Regarding the number of years of experience, the majority of the physicians and almost half the nurses in the study had less than 5 years of experience.

Table 1
Socio-demographic characteristics of the study participants.

Variable	Physicians (n = 122)		Nurses (n = 200)	
	n	%	n	%
<i>Age (years)</i>				
< 30	93	76.2	118	59.0
30–39	29	23.8	48	24.0
≥ 40	0	0.0	34	17.0
<i>Sex</i>				
Male	95	77.9	12	6.0
Female	27	22.1	188	94.0
<i>Residence</i>				
Urban	103	83.7	67	33.5
Rural	20	16.3	133	66.5
<i>Marital status</i>				
Not married	78	63.9	97	48.5
Married	44	36.1	103	51.5
<i>Job</i>				
Physician				
Resident	84	68.9		
Assistant lecturer	38	31.1		
Nurse				
Assistant nurse			26	13.0
Nurse			137	68.5
Nurse specialist			21	10.5
Head nurse			16	8.0
<i>Number of years of experience</i>				
< 5	91	74.6	92	46.0
5–10	30	24.6	33	16.5
≥ 10	1	0.8	75	37.5

Attitudes of the physicians and nurses about screening for DV

Table 2 shows the physicians' and nurses' opinions about screening for DV in the healthcare setting. It was found that just less than half of the physicians and nurses (44.3% and 46.5%, respectively) agreed that physicians have no time to screen for DV. Considerable proportions of physicians believed that it is not important to screen for DV because it is a socially accepted problem and because of the unavailability of the necessary referrals to help female victims (30.2% and 20.0%, respectively). Nurses had statistically significant higher perceptions of social restrictions to screen for DV in the health care setting, such as women denial of exposure (72.5% and 63.1% of nurses and physicians), offending cases by asking about DV exposure (80.5% and 57.4% of nurses and physicians) and that cultural values would restrict their ability to screen for DV (72.0% and 53.3% of nurses and physicians). Nurses also believed with higher frequencies and statistical significance that

Table 2
Physicians and nurses attitude towards dealing with DV.

	Physicians (n = 122)			Nurses (n = 200)		
	Agree	Don't know	Disagree	Agree	Don't know	Disagree
Physicians have no time to screen for DV	54 (44.3%)	35 (28.7%)	33 (27.0%)	93 (46.5%)	44 (22.0%)	63 (31.5%)
It is not important to screen for DV because it is a socially accepted problem [#]	36 (30.2%)	31 (26.0%)	52 (43.7%)	47 (23.5%)	44 (22.0%)	109 (54.5%)
It is worthless to screen for DV because of the unavailability of necessary referrals to help female victims [#]	24 (20.0%)	37 (30.8%)	59 (49.2%)	55 (27.5%)	42 (21.0%)	103 (51.5%)
If asked, most victims of violence will deny exposure ^{**}	77 (63.1%)	34 (27.9%)	11 (9.0%)	145 (72.5%)	33 (16.5%)	22 (11.0%)
Asking about DV may seem offensive to most victims of violence ^{**}	70 (57.4%)	38 (31.1%)	14 (11.5%)	161 (80.5%)	24 (12.0%)	15 (7.5%)
Women cultural beliefs and values may impede asking about domestic violence [*]	65 (53.3%)	39 (32.0%)	18 (14.7%)	144 (72.0%)	40 (20.0%)	16 (8.0%)
Screening for DV may make the abusive partners direct their violence towards health practitioners	44 (36.0%)	51 (41.8%)	27 (22.1%)	114 (57.0%)	57 (28.5%)	29 (14.5%)
Screening for DV can put abused cases in more danger ^{**}	49 (40.2%)	41 (33.6%)	32 (26.2%)	138(69.0%)	44 (22.0%)	18 (9.0%)
I think the outpatient clinics are unsuitable for screening and dealing with of DV	80 (65.6%)	30 (24.6%)	12 (9.8%)	151 (75.5%)	32 (16.0%)	17 (8.5%)
DV is normal amongst couples going through marital difficulties ^{**}	40 (32.8%)	22 (18.0%)	60 (49.2%)	69 (34.5%)	21 (10.5%)	110(55.0%)
DV is a private matter that should be resolved primarily by the couple themselves [#]	62 (53.9%)	12 (10.4%)	41 (35.7%)	145 (72.5%)	21 (10.5%)	34 (17.0%)

[#] Missing data.

* P < 0.05.

** P < 0.01.

screening for DV will expose cases to more danger (69.0% and 40.2% of nurses and physicians) and that DV is normal among couples with marital difficulties (34.5% and 32.8% of nurses and physicians). Physicians and nurses had concerns that screening for DV will expose the health practitioners to violence (36.0% and 57.0%, respectively). Moreover, most physicians and nurses believed that outpatient clinics are unsuitable for screening and dealing with DV case (65.6% and 75.5%, respectively) and more than a half of the physicians (53.9%) and most nurses (72.5%) believed that DV is a private family issue.

Perception of the physicians about their ability to deal with DV cases

Physicians expressed their inability to deal with DV cases (Table 3). Only one fifth (20.5%) and a quarter of physicians (25.4%) mentioned they can ask directly about exposure to physical or sexual violence. Moreover, less than one fifth mentioned they can identify and document cases and know the legal procedures to deal with DV cases (16.4% and 19.2%, respectively). Large proportion; (43.3%), expressed being distressed when discussing DV with cases and only one third perceived they have the communication skills to facilitate disclosure of DV exposure. Only (36.7%) perceived ability to counsel violated cases.

Physicians' practice of screening for and documenting DV exposure

Table 4 shows that only (35.0%) of physicians who participated in the study have screened for DV in the three months preceding data collection. Screening for DV was most frequent in cases of depression, injuries, irritable bowel and abortion. It was also found that only above one third of physicians (39.0%) write a medico-legal report in case of identification of DV cases, and only (26.8%) have ever recorded DV exposure in the patient health record of the identified cases.

Regarding system support, only 2 physicians and 7 nurses have received training about DV and none has mentioned the availability of a written protocol in their departments for dealing with DV cases. Only 15.6% of physicians and 5% of nurses mentioned the existence of communication between their departments and the psychiatry department to refer the DV cases (Not shown in tables)

Predictors of health care providers' positive attitude and screening practice for DV

Tables 5 show the results of the performed multivariate linear and logistic regression analyses. It was found that physicians of urban residence had higher attitude score towards DV screening ($\beta = 3.04$, $p < 0.05$). Perception of the negative health consequence of DV

Table 3
Physicians' perception about their ability to deal with cases of DV.

	Agree	Don't know	Disagree
I am confident I can ask directly about physical DV	25 (20.5%)	62 (50.8%)	35 (28.7%)
I am confident I can ask directly about sexual DV	31 (25.4%)	69 (56.6%)	22 (18.0%)
I am confident I can identify and document domestic violence accurately	20 (16.4%)	69 (56.6%)	33 (27.1%)
I know the legal procedures to deal with cases of DV*	23 (19.2%)	58 (48.3%)	39 (32.5%)
I feel distressed when discussing exposure to violence with victims of DV*	52 (43.3%)	39 (32.5%)	29 (24.2%)
I am confident I have the necessary communication skills to facilitate women disclosing their exposure to DV*	35 (29.0%)	65 (53.7%)	21 (17.3%)
I am confident I can counsel victim of DV*	44 (36.7%)	42 (35.0%)	34 (28.3%)

* Missing data.

Table 4
Physicians practices of screening for and reporting DV.

	Physicians* (N = 122)	
	n	%
In the previous 3 months, have you screened for DV in cases presenting with clinical problems**		
yes	43	35.0
Screening for DV has been performed in case of:		
● Depression	18	41.9
● Injuries	13	30.2
● Irritable bowel	15	34.9
● Abortion	14	32.5
● Headache	11	25.6
● Rupture of the ear drum	5	11.6
● Fracture nasal bone	5	11.6
● Preterm labour	3	6.9
Do you write a medico-legal report in case you identified a victim of DV among women attending the outpatient clinics?		
Yes	48	39.0
Have you ever documented in the patient health record of violated cases that she has been exposed to DV?		
Yes	33	26.8

exposure ($\beta = 8.49, P < 0.001$) and perception of the physicians to have the required communication skills to disclose DV exposure ($\beta = 3.86, P < 0.01$) predicted positive attitude towards DV screening while feeling distressed to discuss exposure to DV with suspected cases ($\beta = -3.95, P < 0.01$) was negatively associated with positive physicians' attitude. Nurses' attitude was not significantly associated with any of the independent variables.

Regarding the screening practice for DV, the identified significant predictors were younger physicians' age ($\beta = -0.30, \text{Adjusted OR: } 0.74$) and the perception of the negative consequences of DV exposure

Table 5
Predictors of physicians and nurses positive attitude towards screening for DV and physicians practice of DV screening in the last three months.

	Score of physicians attitude about screening for DV		Score of nurses attitude about screening for DV		Physicians practice of Screening for DV in the last 3 months	
	B	SE	B	SE	B	Adjusted OR
Age	0.44	0.23	-0.02	0.05	-0.30*	0.74
Sex (male)	0.83	1.22	0.72	1.73	-0.56	0.57
Residence (urban)	3.04*	1.30	1.2	1.30	-0.68	0.50
Marital status (married)	-1.31	1.15	0.60	0.99	-0.86	0.42
Perception of role of healthcare providers to deal with DV victims	0.08	1.30	0.63	0.79	0.05	1.05
Perception of negative health consequences of exposure to DV	8.49***	1.71	3.22	3.96	1.11**	3.03
Blaming women for being exposed to DV	0.61	1.08	0.43	0.96	0.24	1.28
Feeling distressed to discuss exposure to DV with suspected victims	-3.95***	1.18			0.41	1.49
Perception of having enough communication skills to help women disclose exposure to DV	3.86**	1.34			0.57	1.76

* P < 0.05.

** P < 0.01.

*** P < 0.001.

($\beta = 1.11, \text{Adjusted OR: } 3.03$).

Qualitative study

Domestic violence cases are commonly presenting at the outpatients clinics by psychosomatic manifestations

Physician and nurses agreed that they frequently face violated cases in the outpatient clinics or the hospital reception units. They mentioned that violated cases usually do not disclose their exposure to violence, especially the educated women because of their social or working position. Women of low educational or socioeconomic levels may also refuse to disclose their exposure either for preserving the stability of their families, cultural values of accepting violence or fears of further exposure to violence. The battered cases usually present at the outpatient clinics by some clinical complaints, the most common of which are fractures, ruptured ear drum, cut wounds and some psychosomatic manifestations such as back and chest pain, irritable bowel manifestations or depression.

A male tropical medicine physician 28 years old:

"We see many cases complaining of repeated vomiting or abdominal pain, and we discover she has family problems, her husband may be continuously threatening to divorce her...Even if battered they refuses to talk, not because of fear but because she tries to preserve the family and not disclose family secrets, her husband is also the father of her children."

A nurse, 29 years old:

"We see all kinds of violence in the trauma unit; bruises, cut wounds, fractures, burns by cigarettes, or head injury.. Cases of sexual abuse also frequently present at the hospital reception with bleeding and bruises"

Most physicians do not perceive their important role in dealing with victims of DV

Most physicians agreed that they do not have a role in dealing with cases of domestic violence. They justified this opinion mainly by lack of time to screen for and manage cases, DV being only the specialty of the psychologists, not being qualified or trained for discovering and dealing with identified cases and considering domestic violence as a private family matter. On the contrary, the majority of nurses perceived the important role of the health care system in dealing with domestic violence, even if not actually practiced.

A female surgeon, 29 years old:

“I do not care if she fell down the stairs or her husband battered her, if she has a fracture I will fix it, that’s all what I have to do. I have no time to counsel or refer cases to a psychologist; as I examine 200 cases a day.”

Physicians manage only the clinical complaints of DV victims

It was found that the majority of physicians have previously identified violated victims, but they agreed that they do not manage them differently from other non-violated cases; they just manage the clinical symptoms. Almost all physicians agreed that they never counsel nor give relevant guiding information to the violated victims, mainly because of their inability to do such counseling, and their fear of interference in what is considered socially a private family matter.

Male E.N.T physician, 28 years old:

“It’s a part of our culture to consider domestic violence as a private family issue, even if I referred her to psychiatry she probably wouldn’t disclose her exposure to violence..I can treat traumatic perforation.. It’s a part of my specialty, but I know nothing about psychological counseling, if her perforation was caused by a harsh slap on her face”

There was also reluctance in writing a medic-legal report; they stated that this was only done if the violated woman asked for a document to prove the assault and in cases of homicide or suicide. Regarding case referral to a psychiatrist, most physicians stated that they only refer the cases that previously attempted suicide.

A male plastic surgeon, 28 years old:

“In plastic surgery, we do not write any reports and we treat violated cases similarly as any other patient except in suicide, homicide or burn cases we have to write a report and call the police so they can decide the type of assault... That’s the system in our department”

Absence of system support inhibits the health care providers to screen for DV

Almost all physicians and nurses expressed the absence of any system support directing and helping them to deal with violated victims. Physicians from all departments mentioned that they had never received violence related trainings and that they had no information about any hotlines or NGOs that can help women. Moreover, all departments do not have any written protocols on how to deal with violated victims, with no obligation to refer them to a psychiatrist, unless she had tried to commit suicide.

A male orthopedic, 29 years old:

“Actually it’s a matter of absence of a system. If there is any hotline or NGOs that deal with such cases, that would be helpful, but we know nothing about that .We should have learned about these issues when we were residents”

A male psychiatrist, 28 years old:

“We are limited by our job description and we act accordingly, time is limited as we deal with a very large number of cases daily, meanwhile physicians are not social workers, the physician deals with the clinical aspect of the patients’ complaints”

Discussion

Violence against women was identified as a health priority in 2013 guidelines published by WHO and the 67th World Health Assembly has developed a resolution on strengthening the role of the health system in addressing violence, particularly against women and girls [15,16]. Moreover, an effective health-care response to violence against women can contribute to achievement of the sustainable Development Goals, in particular those on gender equality and reduction of maternal and child mortality [17].

In Egypt, the issue is not seen as a priority because of restricted health budgets, competing priorities and the cultural values of tolerance to violence exposure [18]. However, recognition of the problem is an important first step, which can lead to the establishment of mechanisms to address violence against women and convey a message to society as a whole that violence is unacceptable [10].

Physicians in the study mentioned that victims of DV often present at the outpatient clinics or the hospital reception unit with a wide range of complaints, including injuries, chronic pain, irritable bowel symptoms, headache and most commonly depression. These symptoms referred to as “Red flag symptoms” were previously suggested to target DV identification efforts to a higher risk group, with higher detection of victims [19–21].

However, despite the well-known association of these symptoms with exposure to violence, physicians are reluctant to screen for DV and the possibility of DV exposure is often overlooked and the health needs of the violated victims are not addressed sufficiently by the health system [6,22,23]. In this study only 35% of the physicians screened for DV, mainly in cases of depression, injuries, irritable bowel and abortion. The low rate of screening for DV even in the presence of symptoms and signs suggestive of exposure was also documented in other studies. A previous study found that less than a quarter of women presenting at health care facilities were asked about exposure to violence by emergency department staff, including only 39% of women presenting with acute trauma and 13% of women with past year exposure to spousal violence [24], and 50.5% of physicians rarely or never screen their female patients for DV in another study [25].

Reluctance to screen for DV would ultimately reduce the opportunities of identifying violated victims as previous studies found that women usually do not disclose abuse except when directly asked [26] and that physicians’ inquiry about exposure to violence was the most important determinant of disclosing exposure [27].

Consistent with previous studies [28–30], physicians mentioned time constraints and lack of privacy as barriers prohibiting them from screening for DV. Physicians and nurses agreed that the outpatient clinics are not suitable for discussing such sensitive issue which could be attributed to the inability to conduct confidential interviews required to disclose DV exposure as well as lack of privacy as patients are frequently accompanied by their family members [13,31]. Moreover, physicians in our study believed the DV victims identification and referral are not part of their responsibilities, which was previously criticized as an important cause of providing insufficient care to battered women [32].

Social barriers were also evident in the study as large proportion of physicians and nurses agreed that DV victims would deny exposure and would be offended if asked about DV exposure. They also perceived that cultural values of the Egyptian community impede screening for DV. This finding was supported by the Arab cultural concepts of tolerance to DV and viewing disclosing domestic violence to a physician as wrong and a form of family betrayal [18,33,34]. However, another study found that women in the Arab world welcome getting the healthcare involved in combating DV, considering it to be a socially accepted way to address the issue [35].

Focusing on these barriers may mask other barriers that could be challenging to address such as the inability of the physicians to deal with DV victims and the lack of system support. Our study found that provider related factors such as being distressed to discuss exposure to violence and not having the skills to communicate with DV victims were important predictors associated with negative attitude towards screening for DV. Moreover, lack of awareness about negative health consequences of DV were associated with negative attitude and also not practicing screening for DV in the health care setting. Lack of clinicians' confidence in dealing with identified DV victims was not unexpected especially with the absence of system support and coordination with social networks working in the field of combating violence.

Our results were supported by previous studies; as a previous survey on physicians of 13 medical specialities found that about half the physicians reported poor to fair competence in dealing with victims of DV [25]. Moreover, a systematic review which examined health care providers' perceived barriers to screening for intimate partner violence found that the most frequently reported barriers included personal discomfort with the issue and lack of knowledge [29].

We speculate that the lack of association between the tested independent variables and attitude of nurses towards domestic violence could be attributed to association of their attitude with the community cultural factors rather than the demographic factors. This was supported by the nurses' significant higher acceptance of DV among married couples as well as their culturally related higher resistance to screen for DV in the health care settings.

None of the health care providers who participated in the study have ever received formal DV trainings. They also commented that education related to DV was lacking in the medical curricula. This could explain their negative attitudes, perception of lack of skills to deal with violated women, and their imposed barriers to screen for DV. Training healthcare practitioners before residency and in-service training with providing quick and easy access for consultation are important supportive strategies that should be activated. A previous survey found that formal training of physicians and nurses about violence was significantly associated with their routinely initiated discussions about violence with patients [36]. It was also previously recommended that health care providers should provide effective counseling to the identified cases, educate them about the available support services, make the appropriate referral, and assure follow-up [5]. The need for training was also supported by the study as significant associations were found between physicians DV related knowledge, perception of their skills for dealing with DV victims and positive physicians' attitude and screening practices of DV. Effective training of physicians should include knowledge of when and how to ask about violence, first-line psychological support, encouragement of safety promoting behaviours for violence survivors and identification and reporting of the violence with improved documentation as well as referral of survivors to specialist agencies [37,38,39]. Training in workplace should be also based on health care providers identified needs [40].

It was also found that there was lack of system support to identify and manage DV. Physicians and nurses mentioned the absence of a written protocol to deal with identified victims in their departments and the in-existence of any referral channel either to psychologists or NGOs to support them [5]. System-level interventions that included strong institutional support with on-site or easily accessible referrals were more likely to be successful than non-comprehensive, "screening-only" programs [31,41,42].

This study has some limitations. Physicians declining to participate may have affected the study results, but reflected their negative perceptions regarding the importance of the issue. Moreover, findings of the qualitative study cannot be generalized to all health care providers, owing to the small number and recruitment from selected departments. Finally, the sensitivity of domestic violence as a topic might have introduced bias. However, the results presented in this study helped to

highlight the needs of current health systems and deficiencies of the medical education to address DV.

The study findings recommend integrating domestic violence in medical and nursing curricula. The recommended curriculum should discuss DV from all perspectives to change the social acceptance of women exposure to violence as well as to help the physicians and nurses develop the essential communication and counselling skills to identify and manage victims physically and psychologically. Hospitals should also develop a supportive system facilitating screening for and identifying victims with in service continuous training and accessible referrals.

Competing interest

The authors declare that they have no competing interests.

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Ethical approval

All procedures performed in the study were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

Informed consent

Informed consent was obtained from all individual participants included in the study.

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