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Ophthalmic injuries in female victims of domestic abuse

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Abstract

Purpose: Ophthalmic injuries in female victims of domestic abuse are not uncommon but are often underreported. The purpose of this study is to examine the occurrence of ophthalmic injuries in such battered women and note the pattern of injuries. We also aim to raise awareness among ophthalmologists that these injuries are more common than one might think and frequently go undetected.
Study design: Prospective cohort study.
Methods: A prospective cohort study of all ophthalmic injuries in female victims of domestic abuse was conducted in Geta Eye Hospital (Dhangadhi, Nepal) from April 2021 to September 2021 for a period of 6 months. Visual acuity, age, level of education, mechanism of trauma, ophthalmic findings, and Ocular Trauma Score were documented. Other physical injuries, past history of abuse, and denial of gender-based violence were also included. The data were collected via a questionnaire and exported to an Excel sheet. Analysis was performed using mean and standard deviation.
Results: The study included a total of 15 women with ages ranging from 22 to 58 years. Ocular findings of subconjunctival haemorrhage and ecchymosis were present in all cases; 1 case had lens dislocation, lid laceration was present in 1 case, commotio retinae, and hyphaema were present in 2 cases each. The ocular trauma score was 100 in 66.7 % cases. Sixty percent of the victims had a lower level of education than their male partners. History of similar abuse was present in 4 cases (26.7%). The abuser was under the influence of alcohol in 6 cases (40%).
Conclusion: Domestic violence can lead to serious ocular injuries. Considering that ophthalmologists frequently encounter such cases as primary caregivers, it is

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imperative to uphold a heightened level of vigilance. Our research findings indicate the recurrence of an abusive past, suggesting that ophthalmologists cannot only address eye injuries but also guide individuals toward a safer life.

Keywords: domestic violence, intimate partner violence, gender equality, Ocular Trauma Score, ophthalmic trauma

Kecederaan oftalmik di kalangan wanita yang menjadi mangsa keganasan rumahtangga

Abstrak

Tujuan: Kecederaan oftalmik di kalangan wanita yang menjadi mangsa keganasan rumahtangga bukan sesuatu yang jarang terjadi tetapi seringkali kurang dilapurkan. Tujuan utama kajian ini dijalankan adalah bagi melaporkan kadar kejadian dan mengenalpasti corak kecederaan pada mangsa keganasan rumahtangga serta memberi kesedaran kepada pakar oftalmologi bahawa kecederaan ini bukan suatu yang jarang berlaku walaupun sering diketepikan.
Bentuk kajian: Kajian prospektif kohot.
Kaedah kajian: Kajian ini melibatkan wanita mangsa keganasan rumahtangga semua yang mendapat kecederaan oftalmik di Hospital Mata Geta (Dhangadhi, Nepal) selama 6 bulan dari April 2021 sehingga September 2021. Ketajaman penglihatan, umur, tahap pendidikan, mekanisma kecederaan, kecederaan oftalmik dan skor trauma okular telah didokumentasikan. Selain dari itu trauma fizikal yang lain, sejarah keganasan rumahtangga yang lampau, dan penafian tentang keganasan terhadap jantina tertentu telah dijalankan melalui satu soalselidik. Hasil kajian telah dianalisakan secara pengiraan min dan sisihan piawai.
Hasil kajian: Seramai 15 wanita mangsa keganasan rumahtangga berumur di antara 22 dan 58 tahun terlibat dalam kajian ini. Pendarahan subkonjuktiva dan ekimosis di dapati pada semua mangsa, satu kes kanta terkehel, satu kes kelopak mata yang robek, dua kes commotio retinae dan dua kes pendarahan dalam mata dilaporkan. Sebanyak 66.7% telah mencapai 100 bagi skor trauma okular. Sebanyak 60% dari mangsa mempunyai tahap pendidikan lebih rendah dari pendera. Sejarah penderaan yang berulang dikenalpasti dalam 4 kes (26.7%). Enam kes melibatkan penderaan dalam keadaan mabuk.
Kesimpulan: Keganasan rumahtangga boleh menyebabkan trauma oftalmik yang teruk. Memandangkan pakar oftalmologi sebagai pemberi jagaan kesihatan primer sering menghadapi kes sebegini, adalah mustahak bagi mereka meningkatkan kewaspadaan mereka. Berdasarkan kajian, kadar yang tinggi keganasan

rumahtangga yang berulang, mereka bukan hanya merawat kecederaan mata tapi membantu dalam memastikan keselamatan mangsa.

Kata kunci: keganasan pasangan intim, keganasan rumahtangga, ketidaksamaan jantina, skor trauma okular, trauma oftalmik

Introduction

Violence is defined by the World Health Organization as "the intentional use of physical force or power, threatened or actual, against oneself, another person, or against a group or community that either results in or has a high likelihood of resulting in injury, death, psychological harm, maldevelopment or deprivation".[1] Domestic violence is regarded as a public health problem of greater concern worldwide, especially in developing countries.[2]

This problem is not localized to a particular area or a group of people and is present worldwide.[3] Worldwide, one-third to three-quarters of women have been physically or sexually abused in their lifetime.[1] Domestic violence can take different forms with different negative outcomes including physical injuries, reproductive health issues, mental health issues, disability and even death.[4] Compared to non-abused women, abused women sustain injuries that require surgery by 2 to 3 times.[4] The impact of psychological trauma is high and suicidal rates are higher in female having history of abuse.[2]

Intimate partner violence is an important cause of death and maternal mortality in many Southeast Asian countries. Despite these mental and physical health consequences, one–fifth of victimised women do not report episodes of violence. Of the many abused, a few with some health issues can present to hospital for treatment, representing only the tip of an iceberg. Studies have found that women who experience violence learn to accept or rationalise the abuse. Therefore, a substantial number of abuse cases go unrecognized by the primary care physician due to lack of awareness.[3]

According to a study in Nepal by Lamichhane *et al.*, half of married women in Nepal experienced some sort of physical or sexual violence.[5] Head and neck injuries as well as ophthalmic injuries are common among the physical injuries associated with domestic violence. [6-8] Given that women tend to hide domestic abuse, ophthalmic injuries due to domestic violence are common but often go unrecognized in emergency departments. Therefore, ophthalmologists should be highly suspicious if the pattern of injury does not match the history given by the patient.

To date, no reports of ophthalmic injuries related to intimate partner violence have been reported in Nepal. Therefore, the aim of this study was to identify the occurrence of ophthalmic injuries related to intimate partner violence in our centre as well as the factors associated with it.

Methods

This was a prospective cohort study done in Geta Eye Hospital from April 2021 to September 2021 for a period of 6 months. All cases of ophthalmic trauma in women were further questioned about the cause. Among them, all the women who presented as ophthalmic trauma and confirmed the cause being domestic violence by intimate partner were included in the study. Women presenting with ophthalmic trauma due to other causes and those who did not consent to participate were excluded from the study. Ethical approval was obtained from the hospital and informed written consent was obtained from all the patients.

Women who agreed to participate in the study were interviewed alone using a predetermined questionnaire. Visual acuity, age, level of education, employment, mechanism of trauma, and ocular findings on ocular examination were noted. Both partners were asked about educational level, and compared as being equal, higher, or lower. Women were also asked if they had a source of independent income. Mechanism of injuries included were fists, hand and feet, and other objects. Presence of alcohol or drug abuse as well as previous history of similar abuse were noted. Variation in history stating domestic violence being the cause of trauma was also noted. Other physical injuries were ruled out by general examination. If there were other physical injuries, the patient was referred to a trauma surgeon and counselled for psychiatry consultation in a general hospital.

After proper management of the patient, all cases were also counselled and advised to take legal action if they wished. The number of cases that took further legal action was also noted. Further wellbeing of the patient was confirmed via telephone and ophthalmic examination was performed on review follow-up at 6 weeks. The data obtained was entered in Microsoft Excel 2010 and results were computed in mean and standard deviation.

Results

Fifteen cases who confirmed domestic violence by intimate partner were involved in the study, with an age ranging from 22 to 58 years and a mean age of 32.2 years. All the cases involved married women where the husband was the party responsible for inflicting the injuries.

Table 1 presents the mechanisms of injury, for which 12 were inflicted by body parts and 3 by external. Fist injuries caused echymosis in all 8 cases and commotio retinae in 1 case. Seven cases (46.7%) had soft tissue injuries in parts of the body other than the face and were therefore referred to trauma specialists for further treatment. There was 1 case of deep skin laceration caused by knife which required primary repair.

Table 1. Mechanisms of injury

Mechanism of injury	**Cases, *N* (%)**
Fists	8 (53.3%)
Body parts (hands, feet)	4 (26.7%)
Wooden plank	2 (13.33%)
Knife	1 (6.7%)

Table 2. Educational level and employment status

Educational level	Lower than husband	9 (60%)
	Higher than husband	5 (33.3%)
	Similar to husband	1 (6.7%)
Employment	Housewife Daily wage worker Government officer	11 (73.3%) 3 (20%) 1 (6.7%)

Table 3. Ophthalmic examination findings

Ophthalmic examination findings	**Patients, *N* (%)**
Subconjunctival haemorrhage	15 (100%)
Echymosis	15 (100%)
Hyphaema	2 (13.33%)
Commotio retinae	2 (13.3%)
Lid laceration	1 (6.7%)
Lens dislocation	1 (6.7%)

Table 2 presents the distribution of educational level and employment status among cases. Despite the level of education, 11 (73.3%) cases did not work in paid employment outside the home and were financially dependent on their partner.

Table 3 presents the ophthalmic examination findings. Subconjunctival haemorrhage and ecchymosis were present in all 15 cases, respectively. Lid laceration was found in 1 case, commotio retinae and hyphaema (Fig. 1) were found in 2 cases, respectively, and lens dislocation in 1 case (Fig. 2). The Ocular Trauma Score (OTS) is presented in Table 4.

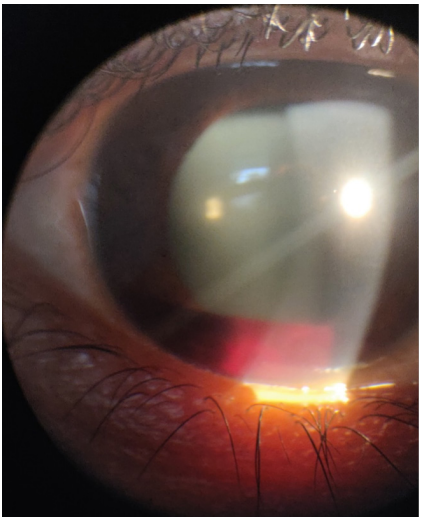

Fig 1. Traumatic hyphaema.

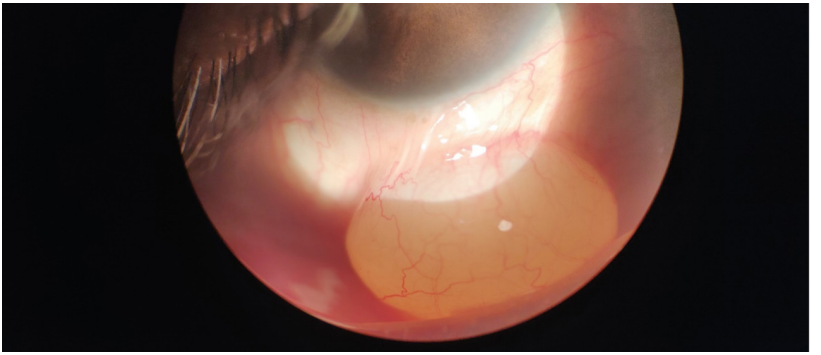

Fig 2. Traumatic dislocation of the lens.

Table 4. Ocular Trauma Score

Ocular Trauma Score	**Cases, *N* (%)**
100	10 (66.7%)
90	4 (26.7%)
70	1 (6.7%)

Table 5. Best-corrected visual acuity at presentation and follow-up

Best-corrected visual acuity	**Presentation *N* (%)**	**6 weeks follow up *N* (%)**
> 6/18	10 (66.7%)	14 (93.3%)
< 6/18-6/60	4 (26.7%)	0
< 6/60-3/60	0	1 (6.7%)
< 3/60 to light perception	1 (6.7%)	0
No light perception	0	0

Best-corrected visual acuity at presentation and follow-up is shown in Table 5. At the 6-week follow-up, BCVA improved for 93.3% of cases to > 6/18. One case with lens dislocation had BCVA of hand movement which improved to 4/60 at the 6-week follow-up. Two cases were admitted and received surgical intervention, with 1 undergoing treatment for a skin laceration and the other for a lens dislocation. The remaining cases were managed conservatively and treated as outpatients.

History of similar abuse was present in 4 cases (26.7%), which had not been previously reported. These cases did not present with any chronic ocular changes related to trauma. Even though all cases confirmed being abused, only 2 women (13.3%) took legal action. All these cases that took legal action had history of past abuse. Eight cases (53.3%) complained of ocular injuries due to violence by intimate partners at the time of presentation. The remaining 7 cases (46.7%) gave accounts other than domestic violence as the cause of trauma and only on further interview and counselling they admitted the cause being intimate partner violence. Nearly half of the participants did not acknowledge their abuse, highlighting the importance of our obligation to be vigilant in such cases. Alcohol was a major factor in initiating violent episodes, as 40% of the time the perpetrator had been under the influence of alcohol. None of the patients had history of any substance abuse.

Discussion

Intimate partner violence is prevalent all around the world.[1,2] The rate of such injuries presenting in emergency departments is also high. Since head and neck injuries are also common, ophthalmologists can be the first to recognise these cases. In our study, the number of cases observed in only 6 months in a single centre is substantial. Therefore, emergency physicians and ophthalmologists should be vigilant for these cases, especially in cases where the cause of injury is explained inadequately.

In our study, 46.7% of the cases denied history of abuse on presentation. Ophthalmologists should have a high degree of suspicion about abuse and ask further leading questions if suspicions arise. It is common for victims not to explain the cause of injuries as physical assault and evade direct answers questioned directly.[6,9,10] Hesitance to answer about the cause of injuries, as well as multiple injuries in the face and body that do not match the history given by the patient should raise concerns about possible domestic abuse.

Socioeconomic factors can play a major role in domestic violence. Educational levels and employment status play an important role in women's independence from their partners. In our study, 60% women experiencing violence had a lower level of education than the husband. Although it would appear that women with higher levels of education have lower chances of being victim of domestic violence, some studies have shown no correlation between educational level and intimate partner violence.[11] However, other studies have found the opposite, showing a direct link between women's education and violence: the higher the educational level, the lower chances of being abused.[12-14] The husband's age and education was found to be significantly associated with lifetime experience of violence.[5] Several studies have shown that unemployed women and women with low-income occupations are found to be at greater risk of experiencing violence.[5,12] We observed a similar pattern in our study, where most women were financially dependent on their husbands. This economic dependency is probably the main reason for women not to complain about the abuse. All the women who took legal action in our study were financially independent irrespective of their educational level. However, it is not possible to draw any substantial conclusions due to our small sample size.

In our study, the OTS was 100 in 10 (66.7%) patients at presentation. At the 6-week follow-up, 93.3% cases had BCVA of 6/18 with no long-term effects of trauma. This suggests a good visual prognosis during follow-up in our cases, but it is difficult to draw conclusion due to small number of cases and short follow-up period.

In many studies, ocular findings due to trauma were mostly blunt injuries with close globe injuries which is similar to our study.[7,9,15] In our study, all the cases presented with blunt ocular trauma and none with ocular penetrating injuries, which is similar to a study by Malhotra *et al.* where the majority of domestic abuse cases presented with contusion and abrasions.[7] In a study by Beck *et al.*, the most common injuries were periorbital contusion, which is similar to our findings.[9] The injuries observed in our study were different than those observed by Atipo-Tsiba *et al.*, where severe injuries such as globe rupture and orbital wall fractures were common.[15]

In several studies, alcohol abuse was shown to be a leading cause of intimate partner violence.[5,16,17] In our study, 40% of the abusers were under the influence of alcohol during episodes of violence. Our findings show that the perpetrators used

their body parts, mostly fists, similar to Beck *et al.* who found fists to be the most commonly used mode.[9] The perpetrators also used sharp or blunt objects to harm the victims in our study.

Another problem that we face in these victims is that they do not report the abuse. In our study, 26.7% of the women did not report their past history of violence, similar to previous studies.[2,16] Garcia- Moreno *et al.* found that more than one-fifth of the victims did not report their partner's violence.[1] Lamichanne *et al.* found that one-third of cases had past history of abuse.[5] These injuries also tend to escalate in severity on repetition. Women with a history of abuse have shown to have more severe injuries.[18]

Conclusion

Ophthalmic trauma in female victims of intimate partner violence is prevalent, yet these injuries may be underreported. Awareness of warning signs and a high level of suspicion among healthcare personnel about these situations is of paramount importance. As ophthalmologists, we may often be the first to encounter these cases. Beyond providing ophthalmic care, it is imperative that we engage with our patients, as many may conceal their history of abuse as reported in our study. We should be mindful that our role extends beyond ophthalmic care and can be a lifeline for those in need. While this study involved a limited number of cases, making it challenging to draw definitive conclusions regarding ocular findings and visual prognosis, it still imparts valuable information underscoring the prevalence of these unacknowledged acts of violence.

Declarations

Ethics approval and consent to participate
This study was conducted in accordance with the Declaration of Helsinki. Ethical approval was obtained from the hospital and informed written consent was obtained from all the participants prior to their enrollment in the study.

Competing interests
None to declare.

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References

1. World Health Organization. World Rep Violence Health. 2002.
2. Garcia-Moreno C, Heise L, Jansen HAFM, Ellsberg M, Watts C. Violence Against Women. Science. 2005 Nov 25;310(5752):1282-3. https://doi.org/10.1126/science.1121400
3. Garcia-Moreno C, Jansen HA, Ellsberg M, Heise L, Watts CH. Prevalence of intimate partner violence: findings from the WHO multi-country study on women's health and domestic violence. Lancet. 2006 Oct 7;368(9543):1260-9. https://doi.org/10.1016/S0140-6736(06)69523-8
4. Campbell JC. Health consequences of intimate partner violence. Lancet. 2002 Apr 13;359(9314):1331-6. https://doi.org/10.1016/S0140-6736(02)08336-8
5. Lamichhane P, Puri M, Tamang J, Dulal B. Women's Status and Violence against Young Married Women in Rural Nepal. BMC Women's Health. 2011 May 25;11(1):19. https://doi.org/10.1186/1472-6874-11-19
6. Rounsaville B, Weissman MM. Battered women: A medical problem requiring detection. Int J Psychiatry Med. 1978;8(2):191-202. https://doi.org/10.2190/CDHJ-DPLG-183Q-T0B8
7. Malhotra R, Shah Y, Bhagat N. Ocular Injuries Caused by Intimate Partner Violence Using an Emergency Room Database - a Gender-Based Analysis. Invest Ophthalmol Vis Sci. 2021 Jun 21;62(8):2637.
8. Cohen AR, Clark TJE, Renner LM, Carter PC, Shriver EM. Intimate partner violence as a mechanism of traumatic ocular injury in women. Can J Ophthalmol. 2019 Jun 1;54(3):355-8. https://doi.org/10.1016/j.jcjo.2018.05.017
9. Beck SR, Freitag SK, Singer N. Ocular Injuries in Battered Women. Ophthalmology. 1996 Jan 1;103(1):148-51. https://doi.org/10.1016/S0161-6420(96)30748-3
10. McLeer SV, Anwar R. A study of battered women presenting in an emergency department. Am J Public Health. 1989;79(1):65-6. https://doi.org/10.2105/AJPH.79.1.65
11. Aghakhani N, Nia HS, Moosavi E, Eftekhari A, Zarei A, Bahrami N, et al. Study of the types of domestic violence committed against women referred to the legal medical organization in Urmia-Iran. Iran J Psychiatry Behav Sci. 2015;9(4). https://doi.org/10.17795/ijpbs-2446
12. Roy Chowdhury S, Bohara AK, Horn BP. Balance of Power, Domestic Violence, and Health Injuries: Evidence from Demographic and Health Survey of Nepal. World Dev. 2018 Feb 1;102:18-29. https://doi.org/10.1016/j.worlddev.2017.09.009
13. Doku DT, Asante KO. Women's approval of domestic physical violence against wives: analysis of the Ghana demographic and health survey. BMC Womens Health. 2015;15(1):1-8. https://doi.org/10.1186/s12905-015-0276-0
14. Dillon G, Hussain R, Kibele E, Rahman S, Loxton D. Influence of intimate partner violence on domestic relocation in metropolitan and non-metropolitan young Australian women. Violence against women. 2016;22(13):1597-620. https://doi.org/10.1177/1077801216628689
15. Atipo-Tsiba PW, Noa G, Ebana S, Diomande IA. Ocular injuries in female victims of domestic violence in Brazzaville (Congo). Health Sci Dis. 2016;1-3.
16. Kaur R, Garg S. Domestic Violence Against Women: A Qualitative Study in a Rural Community. Asia Pac J Public Health. 2010 Apr 1;22(2):242-51. https://doi.org/10.1177/1010539509343949

17. Anes Jellali I, Jellali MA, Gataa R, Mechri A. [Violence against women in the marriage : Cross-sectional study in the family planning clinic Monastir]. Tunis Med. 2015 Aug 1;93(8-9):516-22.
18. Sugg NK, Inui T. Primary care physicians' response to domestic violence: opening Pandora's box. JAMA. 1992;267(23):3157-60. https://doi.org/10.1001/jama.1992.03480230049026