

Intimate Partner Violence Among Infertile Women Attending West Arsi and Bale Zones, Ethiopia

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Abstract

Background

Intimate partner violence (IPV) is a pervasive human rights issue that disproportionately affects women, particularly in developing countries such as Ethiopia. Infertile women face an intensified risk due to social norms that blame them for childlessness. This intersection of infertility and IPV results in severe physical, psychological, and economic consequences. However, evidence on this issue in Ethiopia remains scarce. This study aims to assess the IPV among infertile women in the study area.

Objectives

The study aimed to assess the prevalence of IPV and associated factors among infertile women attending health facilities in the West Arsi and Bale Zones, Ethiopia, in 2025.

Methods

A health facility–based cross-sectional study was conducted among 423 women from May 1 to June 30, 2025. Intimate partner violence was assessed using WHO-validated domestic violence tools for low-income settings. Participants were selected through systematic random sampling, and data were collected via structured interviews and patient card review using Kobo Toolbox. The data were exported to SPSS version 26 for cleaning and analysis. Binary and multivariable logistic regression models were applied, with statistical significance determined at a p-value of < 0.05 .

Results

Of the 423 women approached, 406 participated, yielding a response rate of 95.98%. The prevalence of intimate partner violence among infertile women attending gynecology referral clinics in West Arsi and Bale zone hospitals was 53% (95% CI: 48.1%–57.8%). Primary infertility was significantly associated with IPV (AOR = 2.67; 95% CI: 1.50–4.78), as was low marital satisfaction (AOR = 3.10; 95% CI: 1.40–6.79). Additionally, women with depressive symptoms had a higher likelihood of experiencing IPV (AOR = 1.77; 95% CI: 1.16–2.71).

Conclusion and Recommendations:

This study revealed that intimate partner violence among infertile women is alarmingly high, affecting more than half of the participants. Types of infertility, low marital satisfaction, and depression were identified as significant associations. These findings highlight the need for routine IPV and mental health screening within infertility care services. Incorporating psychosocial support and marital counseling into

reproductive health programs is strongly recommended. In hospitals, coordinated action across reproductive, mental health, and social services is essential.

Introduction

Across the globe, women face many man-made challenges, often rooted in long-standing cultural norms. One of the most pervasive is intimate partner violence (IPV), especially in less developed settings where it may be socially tolerated or hidden (1, 2). IPV involves physical, sexual, or psychological harm by a current or former partner and remains a serious barrier to women's health, dignity, and equality (2). Infertile women bear a double burden, making the condition much more challenging and frequently disregarded. Infertility is a growing health and social issue that disproportionately impacts women. When combined with intimate relationship violence, it increases vulnerability, emotional suffering, and humiliation in families and communities (3, 4).

Intimate partner violence is strongly associated with infertility, with infertile women experiencing higher rates than the general population. According to a recent review, IPV affects over 30% of women who have ever been in a relationship, but the percentages are significantly greater for women who are infertile. About 36% of infertile women in low- and middle-income countries reported experiencing IPV in the previous year, and approximately 47% reported experiencing it at some point in their lives (5).

The issue disproportionately affecting infertile women remains a significant public health concern. Stigma, marital instability, and entrenched gender norms increase their susceptibility to physical, sexual, and psychological abuse. This violence has profound consequences, including deteriorating physical health, social marginalization, and substantial psychological distress (3, 4). Additionally, IPV can undermine treatment outcomes by reducing adherence and increasing the likelihood of therapeutic failure of infertility treatment. Social isolation compounds these challenges, intensifying emotional distress and contributing to broader physical and mental health problems (6).

What is particularly concerning in low-income countries is that infertile women experiencing intimate partner violence (IPV) are often neglected or further stigmatized. This compounded vulnerability significantly increases the risk of mental health problems, including depression, anxiety, and suicidal ideation (7). For example, studies indicate that infertile women who experience IPV are approximately 16% more likely to attempt suicide compared to those not subjected to such violence (8). Similarly, infertile women experiencing IPV often lack stable relationships, which increase their risk of sexually transmitted infections, including HIV, as well as other gynecological complications, further exacerbating their health challenges (1, 9). Previous studies identified factors associated with IPV among infertile women, like age, low education, marital instability, and economic dependence that further increase vulnerability (1, 10, 11).

National and global strategies, including Sustainable Development Goals (SDGs), have recognized IPV as a critical public health and human rights issue, emphasizing the need to prevent and respond to violence against women (12). However, the burden of IPV among particularly vulnerable populations, such as

infertile women in developing countries like Ethiopia, remains largely neglected. Despite the known physical, psychological, and social consequences of IPV, there is limited evidence on its magnitude and contributing factors within this specific group. Addressing this gap, the present study aims to investigate the magnitude of IPV and its associated factors among infertile women in selected study areas, providing crucial evidence to baselines concerned bodies, and targeted support services for this underserved population.

Methods

Study setting, study design and period

A facility-based cross-sectional study was conducted among infertile women attending gynecological clinics in the West Arsi and Bale zones of the Oromia Regional State, southeastern Ethiopia. Located in the region's southeast, these three predominantly agrarian zones rely heavily on farming for their livelihoods. From our assessment from the zonal health report West Arsi and East Bale together host thirteen hospitals seven public and six private which provide comprehensive gynecological services, including infertility diagnosis and management, in addition to other medical services. A specific time frame, from May 1 to June 30, 2025, was used to gather data on women seeking treatment during regular clinical service delivery.

Study population

Infertile women attended gynecological treatment at both public and private hospitals found in the West Arsi and Bale zones during the study period.

Eligibility Criteria

Women diagnosed as infertile who attended gynecological treatment at both public and private hospitals found in the West Arsi and Bale zones during the study period were included in this study. The women whose status of diagnosis were not identified or confirmed infertility were excluded from the study.

Sample size determination

The sample size was determined using the single population proportion formula, taking into account standard methodological assumptions. In the absence of prior studies conducted on this topic among the target population, the proportion (p) was assumed to be 50% to maximize the sample size and ensure adequate statistical power. A 95% confidence level was applied, corresponding to a Z value ($Z_{\alpha/2}$) of 1.96, and a margin of error (degree of precision) of 5% was used. Based on these parameters, the minimum required sample size was calculated to be 384 participants. To compensate for potential

non-response and incomplete data, a 10% non-response rate was added, resulting in a final sample size of 423 study participants.

Sampling technique and procedure

This study focused on infertile women seeking care at selected hospitals within the West Arsi and Bale zones. In collaboration with the respective zonal health bureaus, we first identified all facilities providing routine infertility services, resulting in a total of thirteen hospitals (seven public and six private). To ensure a representative sample, we applied World Health Organization (WHO) guidelines to select 50% of these facilities for the study. Accordingly, seven hospitals—Shashemenne Comprehensive Referral Hospital, Faya General Hospital, Dodola General Hospital, Arsi Negele Medical College Hospital, Essa General Hospital, Goba Referral Hospital, and Gindhir General Hospital—were chosen using a lottery method. The total sample size was then distributed proportionally to each hospital based on client flow, and eligible study participants were finally selected using a systematic random sampling technique.

Study variables

Dependent variable

Intimate partner violence among infertility women

Independent variables

Socio demographic factors

Age of women, marital status, Year of since marriage, Types of marriage, Allow husband to remarry, Educational status, Occupation, Monthly income, and Residences.

Reproductive and Service-related factors

Types of infertility, Duration of infertility, Duration of treatment, Types of fertility treatment, History of STD and History of gynecological surgery.

Medical and social related factors

Substance uses, Social support, depression, marital satisfaction and Willingness to adopt children.

Operational definition

Intimate partner violence (IPV)

Intimate partner violence (IPV) was assessed using a 13-item tool adapted from World Health Organization (WHO) guidelines for low-income settings. This instrument has been successfully validated and used in previous studies across Ethiopia. The scale includes specific items to measure physical, sexual, and psychological violence. For analytical purposes, participants were coded as "1" if they had experienced at least one form of IPV, and "0" if they reported no history of victimization (13).

Depression: Depressive symptoms were measured using the Patient Health Questionnaire-9 (PHQ-9), a validated screening instrument with a total score range of 0 to 27. Consistent with standard categorization, severity was defined as follows: no depressive symptoms (0–4), mild (5–9), moderate (10–14), and severe (15 and above). To identify the presence of depressive symptoms, we adopted a cut-off score of 5 or above threshold previously validated in the Ethiopian population, which demonstrated 86% sensitivity and 67% specificity (14–17).

Social support: Social support was assessed using the three-item Oslo Social Support Scale (OSSS-3). The total scores, which range from 3 to 14, were operationalized into three distinct categories of social support: poor (3–8), moderate (9–11), and strong (12–14). For statistical analysis, these levels were coded as 1, 2, and 3, respectively (18).

Relationship satisfaction: Relationship satisfaction was evaluated using the Relationship Assessment Scale (RAS), a seven-item instrument rated on a 5-point Likert scale. The total score ranges from 7 to 35. For this study, satisfaction levels were categorized based on total scores as follows: low satisfaction (7–14), average satisfaction (15–21), and high satisfaction (22–35) (19).

Data Collection Tool and Procedure

By using a structured questionnaire, both interviews and patient card reviews were used for data collection for this study. The data was collected by Kobo Toolbox software. The questionnaires have questions about socio-demographic factors, reproductive and service-related issues, social support, intimate partner violence, marital satisfaction, and questions assessing the depression symptoms. The questionnaire was prepared in the English language and later translated into Afan Oromo for data collection. Four bachelor degree holders and two supervisors were recruited for data collection. Data collectors explained the objectives of the study for participation by reading the consent sheet loudly in the Afan Oromo language. Then data was collected by face-to-face interviews after they completed infertility clinic services. Data collection was supervised by supervisors on a daily basis.

Data Quality Control

To maintain methodological rigor, we implemented comprehensive data quality assurance measures throughout the study. Prior to full-scale implementation, we conducted a pretest at Batu General Hospital with 44 women (10% of the sample size), where an internal consistency analysis yielded a Cronbach's alpha of 0.93, confirming tool reliability and prompting minor necessary refinements. Data collectors and supervisors underwent a two-day intensive training program covering study objectives, KoboToolbox

proficiency, participant safety protocols, and interview techniques. This training emphasized effective communication, accurate clinical card review, and sensitivity toward local cultural norms to ensure high-quality data collection. Finally, to guarantee data integrity, supervisors conducted daily audits of the KoboToolbox platform to verify the completeness and accuracy of all entries throughout the fieldwork period.

Data Processing and Analysis

Data collected using Kobo Toolbox was exported to SPSS version 26 for data management, cleaning, and analysis. Descriptive statistics, including means, standard deviations, and proportions, were computed to summarize the characteristics of the study variables. Bivariate binary logistic regression analyses were initially performed to examine the crude association between the outcome variable (IPV) and each independent variable. Variables with a p-value less than 0.25 in the bivariate analysis were subsequently entered into a multivariable binary logistic regression model to control for potential confounding effects. The strength of association between depression and independent variables was estimated using odds ratios (ORs) with corresponding 95% confidence intervals (CIs) and p-values. Multicollinearity among independent variables was assessed using collinearity diagnostics, including variance inflation factor (VIF) and tolerance statistics. Model adequacy was evaluated using the Hosmer–Lemeshow goodness-of-fit test. Statistical significance was declared at a p-value of less than 0.05.

Ethical Consideration

The Shashemenne Campus School Health Science Ethical Review Committee of Madda Walabu University granted ethical clearance. The study received approval from all collaborating hospitals. Before data collection, each participant provided informed consent after being thoroughly informed of the study's aims. The written questionnaires did not include names or identifying details to maintain data anonymity. Each participant was told that participation was entirely voluntary during the data collection process.

Result

Socio-demographic characteristics of women

In this study, about 406 participants provided the information, resulting in a response rate of 95.98%. The mean age of the participants was 34.11 years with a standard deviation of 4.70. Regarding marital status, 355 (87.4%) were married, 341 (84%) were women who had been married for less than 10 years, and 349 (85.9%) were in monogamous relationships. Approximately 185 (45.6%) participants had primary education. Lastly, 207 (51%) of the participants lived in rural areas. (Table 1)

Table 1
Socio-demographic characteristics of women regarding on IPV among Infertile Women Attending
Gynecology Referral Clinics in West Arsi and Bale Zones Hospitals, 2025

Variables	Categories	Frequency (406)	Percentage (100%)
Age	18–29	120	29.6
	30–39	225	55.4
	≥ 40	61	15
Marital status	Single	32	7.9
	Married	355	87.4
	Widowed	19	4.7
Types of marriage	Monogamous	349	85.9
	Polygamous	57	14.1
Duration since marriage	< 10	341	84
	≥ 10	65	16
Women allow husbands to remarry	Yes	25	6.2
	No	381	93.8
Educational level of women	No formal education	74	18.2
	Elementary (1–8)	185	45.6
	Secondary(9–12)	95	23.4
	Tertiary(diploma and above)	52	12.8
Occupation of women	House wife	243	60
	Merchants	111	27.3
	Government workers	39	9.6
	Others*	13	3.1
Residence	Rural	207	51
	Urban	199	49
Footnote: *Daily labor			

Reproductive and Service related characteristics of women

Of the study participants, 337 (83%) were diagnosed with primary infertility. Regarding the duration of infertility, 190 participants (46.8%) had been infertile for 5–9 years, and 229 participants (56.4%) had experienced infertility for more than 5 years. (Table 2)

Table 2
Reproductive and Service related characteristics of the study participants on IPV among
Infertile Women Attending Gynecology Referral Clinics in West Arsi and Bale Zones
Hospitals, 2025

Variables	Categories	Frequency (406)	Percentage (100%)
Types of infertility	Primary	337	83
	Secondary	69	17
Duration of infertility	< 5	168	41.4
	5–9	190	46.8
	≥ 10	48	11.8
Duration of infertility treatment	< 5	177	43.6
	≥ 5	229	56.4
History of STD	Yes	35	8.6
	No	371	91.4
History of gynecological surgery	Yes	76	18.7
	No	330	81.3

Medical and psycho-social related characteristics of the study participants

Of the study participants, 329 (81.1%) reported no history of substance use. A total of 151 respondents (37.2%) expressed a willingness to adopt children. About 188 participants (46.3%) reported moderate levels of family support, while 199 (49%) indicated average levels of relationship satisfaction. Moreover, 215 participants (53%) exhibited symptoms of depression. (Table 3)

Table 3

Medical and psycho-social related characteristics of the study participants on IPV among Infertile Women Attending Gynecology Referral Clinics in West Arsi and Bale Zones Hospitals, 2025

Variables	Categories	Frequency (406)	Percentage (100%)
History of substance use	Yes	77	18.9
	No	329	81.1
Willingness to adopt children	Yes	151	37.2
	No	255	62.8
Family support	Poor support	75	18.5
	Moderate support	188	46.3
	Strong support	143	35.2
Relationship satisfaction	Low satisfaction	46	11.3
	Average satisfaction	199	49
	High satisfaction	161	39.7
Depression	Have no depression	191	47
	Have depression	215	53

Magnitude of IPV among infertile women attending Gynecology Referral Clinics in West Arsi and Bale zones hospitals in 2025.

According to this study, the magnitude of IPV among infertile women who attended Gynecology Referral Clinics in West Arsi and Bale zone hospitals was 53% (95% CI: 48.1%, 57.8%). (Fig. 1)

Factors associated with IPV among infertile women attending Gynecology Referral Clinics in West Arsi and Bale zones hospitals in 2025

In this study, six variables type of infertility, duration of infertility, willingness to adopt children, family support, relationship satisfaction, and experience of depression symptoms fulfilled the criteria for inclusion in the bivariable logistic regression analysis and were identified as candidate variables for multivariable logistic regression. In the final model, three variables type of infertility, relationship satisfaction, and experience of depression symptoms showed a significant association with IPV among infertile women.

Type of infertility was one of the factors associated with IPV among infertile women. The odds of experiencing IPV were 2.67 times higher among women diagnosed with primary infertility compared to their counterparts (AOR = 2.67; 95% CI: 1.50, 4.78). In addition, women with low marital satisfaction were 3.10 times more likely to experience IPV than those with high marital satisfaction (AOR = 3.10; 95% CI:

1.40, 6.79). Lastly, depression symptoms were also identified as a significant factor in this study. The odds of experiencing IPV were 1.77 times higher among women who reported depression symptoms compared to their counterparts (AOR = 1.77; 95% CI: 1.16, 2.71). (Table 4)

Table 4
Binary and multivariable logistic regression on IPV among Infertile Women Attending Gynecology Referral Clinics in West Arsi and Bale Zones Hospitals, 2025

Variables	Categories	Intimate Partner Violence		COR (95% CI)	AOR (95% CI)
		Faced IPV (215)	Have not faced IPV (191)		
Types of infertility	Primary	194(57.6%)	143(42.4%)	3.10(1.78,5.41)	2.67(1.50,4.78)*
	Secondary	21(30.4%)	48(69.6%)	1	1
Duration of infertility	< 5	93(55.4%)	75(44.6%)	1	1
	5–9	103(54.2%)	87(45.8%)	0.95 (0.62,1.41)	0.83(0.53,1.30)
	≥ 10	19(39.6%)	29(60.4%)	0.52 (0.27,0.99)	0.53(0.27,1.06)
Willingness to adopt children	Yes	70(46.4%)	81(53.6%)	1	1
	No	145(56.9%)	110(43.1%)	1.53 (1.01,2.30)	1.44(0.93,2.23)
Family support	Poor	47(62.7%)	28(37.3%)	1.30 (0.85,2.01)	1.26(0.79,1.99)
	Moderate	101(53.7%)	87(46.3%)	1.90 (1.10,3.37)	1.46(0.78,2.74)
	Strong	67(46.9%)	76(53.1%)	1	1
Relationship satisfaction	Low	34(73.9%)	12(26.1%)	3.70 (1.80,7.63)	3.10(1.40,6.79)*
	Average	111(55.8%)	88(44.2%)	1.64 (1.10,2.50)	1.37(0.87,2.14)
	High	70(43.5%)	91(56.5%)	1	1
Depression symptoms	Have not depression	91(47.6%)	100(52.4%)	1	1
	Have depression	124(57.7%)	91(42.3%)	1.50 (1.02,2.22)	1.77 (1.16,2.71)*

Footnote: *p-value ≤ 0.05 in multivariable analysis, 1-Reference group

Discussion

Intimate partner violence is a major problem for women in developing nations like Ethiopia, where gender inequity is rampant. Infertile women are most impacted by this issue because of the combined weight of social stigma and neglect. However, there is a scarcity of information regarding IPV among infertile women. Thus, according to the current study, 53% (95% CI: 48.1%, 57.8%) of this particular demographic in Ethiopia's West Arsi and Bale zones experience IPV. This study found that depression, primary infertility, and low marital satisfaction are major contributing variables.

The findings of this study align closely with evidence reported across different cultural contexts of IPV among women facing infertility. For instance, research in the finding of this study is in accordance with the studies conducted in Egypt (11), which was 50.5%; in Iran(20), research revealed a prevalence of 55.35%, while a study in Turkey (21) documented a prevalence of 47.9%. Despite coming from different societies, these numbers come together to show a common human reality: women dealing with infertility frequently face not just mental and medical difficulties but also the added burden of violence. The statistical basis is strengthened by this uniformity across locations, which also serves as a reminder that each figure represents a lived experience that demands advocacy, empathy, and change in the system.

The prevalence identified in this study is notably higher than that reported in related studies from Nigeria. In Kano, Northwest Nigeria (22), the prevalence IPV was found to be 35.9%, while in South-Western Nigeria(23), a prevalence of 31.2%. Similarly, other studies in South-South Nigeria(24) strengthen this study's findings, which indicate 44.7%. These differences also highlight the variability of experiences across regions; attribute tools, and sociocultural variation, all of which collectively reinforce the troubling regions. This implies infertility-affected women are still at a high risk of violence, which emphasizes the need to provide culturally sensitive interventions and systemic support.

On the other hand, in comparison to results from an Iranian setting, where the prevalence of IPV was 61.8%, the magnitude observed in this study is lower(25). Given that the Iranian study was carried out more than ten years ago, timeline factors could account for this disparity, possibly reflecting shifts in clinical procedures and public health initiatives over time. The observed discrepancies in prevalence may also be explained by differences in the socio-demographic features of the research populations.

In this study, it was revealed that infertile women with low marital satisfaction were almost three times more likely to encounter intimate partner violence (IPV) compared to those who were high satisfaction in their relationships. The results of meta-analyses looking at the association between intimate partner violence and marital satisfaction verify this (26). One explanation could be that conflict and disagreements are more likely to occur in relationships where there is a lack of shared interest or fulfillment. Furthermore, there may be a greater chance of other parties getting involved, which might make issues worse. This danger is especially significant for infertile couples, who may face social and cultural stigma that further fractures their relationship.

Other factor identified by this article includes types of infertility. Women diagnosed with primary infertility were 2.7 times more likely to encounter IPV than women with secondary infertility. This is corroborated by a studies carried out in Beijing, China and Tanzania (7, 27). This might have to do with

the experiences of the family and how children see their home. Having children frequently fosters emotional ties and shared duties, which can lessen disagreements and even assist settle arguments that might otherwise result in intimate partner violence. Couples dealing with primary infertility, however, are not affected by this dynamic.

Lastly, depression was found to be a significant factor; if faced with intimate partner violence (IPV), infertile women had a larger burden of depressive symptoms than their counterparts. This result is in line with longitudinal data from men and women in rural Rwanda (28) as well as investigations carried out in Ethiopia (29). This might be due to While pre-existing depression may make one more susceptible to experiencing or committing IPV, especially in situations marked by social and economic stress, IPV commonly precedes and contributes to the development of depressive symptoms. This suggests that due of this complex relationship, enhancing the wellbeing of affected women necessitates incorporating mental health interventions into IPV prevention and response strategies.

Conclusion

This study revealed that intimate partner violence among infertile women is alarmingly high, affecting more than half of the participants. Types of infertility, low marital satisfaction, and depression were identified as significant associations.

Recommendation

Health professionals should routinely screen infertile women for intimate partner violence and depressive symptoms during gynecologic care, particularly among those with primary infertility and low marital satisfaction, and provide confidential, psychological support with appropriate referrals. Health offices are recommended to integrate IPV and mental health screening into infertility and reproductive health guidelines, strengthen referral linkages, and ensure regular capacity-building for providers. Stakeholders, including governmental and non-governmental organizations, should prioritize community awareness, stigma reduction, and couple-based counseling, while fostering strong multisectoral collaboration to address the interconnected challenges of infertility, violence, and mental health.

Abbreviations

AOR

Adjusted Odds Ratio

COR

Crude Odds Ratio

CI

Confidence Interval

HCW

Health Care Workers

OR

Odds Ratio

OSLO

Oslo Social Support Scale

RAS

Relationship Assessment Scale **SPSS**:Statistical Package for Social Sciences

WHO

World Health Organization

Declarations

Ethics approval and consent to participate

The Madda Walabu University, Sheshemene Campus School of Health Science Ethical Review Committee provided ethical clearance with IRB number RCSTT/61/2025. Prior to data collection, all study participants provided written consent and were informed of the study's purpose. Every technique was applied in accordance with the Helsinki Declaration. Additionally, names and other identifying information were left out of the written questionnaires in order to preserve the confidentiality of the data. Every study participant was informed that their participation in the data collection would be voluntary.

Consent for publication

Not applicable.

Competing interests

The authors declare that they have no competing interests.

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Data Availability

If necessary, the corresponding author may be contacted at any time to obtain reasonable access to the data and supplementary materials utilized in this study. As a result, the principal investigator can be reached at any time at this g-mail address: SoleSeifa@gmail.com

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Figures

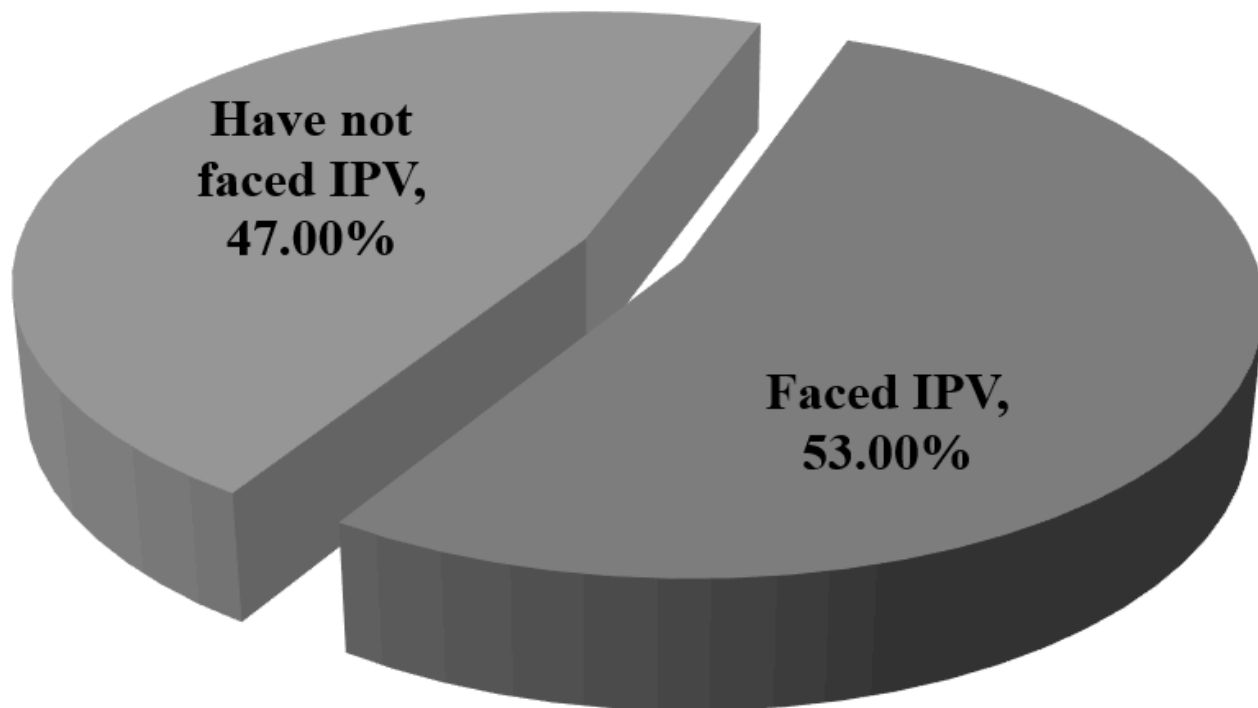


Figure 1

Magnitude of IPV among infertile women attending Gynecology Referral Clinics in West Arsi and Bale zones hospitals in 2025.

Supplementary Files

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