

## Evaluating sexual education awareness and its preventive role in sexual abuse: A cross-sectional study

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### Abstract

**Background and objective:** Educating youth on matters of sexuality and relationships is essential for fostering healthy attitudes and behaviors. This study aimed to assess the knowledge levels and sources of information regarding sexual health among individuals who experienced sexual violence in the Kurdistan region of Iraq. The study population included both detainees and individuals seeking medicolegal services, providing a broader understanding of the information gaps and educational needs within this vulnerable group.

**Methods:** Using a quantitative survey design, 200 participants were selected through convenience non-probability sampling. The sample included detainees and individuals seeking medicolegal services across correctional and forensic facilities in the Kurdistan region of Iraq. All participants had histories of sexual abuse. Structured interviews were conducted to gather data on their knowledge of sexual health and sources of information.

**Results:** A meager 26% had received any formal sex education. Significant barriers persisted, as 60% noted disparities in how such topics were discussed between genders. Despite limited knowledge, 92% wanted to help other victims. Moreover, 62% understood how abuse can damage relationships, 55% turned to social media for answers with few trusted others to ask, and a paltry 11% reported their own victimization to authorities. Statistical analysis revealed strong connections between information levels and age, gender, and education attainment ( $P < 0.05$ ).

**Conclusion:** This research uncovers substantial gaps in sex education for detainees who survived sexual assault. Demographic factors strongly influenced what information sources one utilized and perspectives about such matters. Future studies should profile trends across wider populations and design targeted educational initiatives for parents of children aged 10 and up to remedy these critical information shortfalls.

**Keywords:** Knowledge; Sexual education; Sexual abuse; Prisoners; Kurdish Iraq.

### Introduction

Adolescence is a time of major physical, psychological, and social development. The current state of science emphasizes that specific cultural and social contexts structure adolescent development, where biology, identity, and environments are interdependent to impact puberty, risk behavior, academic attainment, and identity formation.<sup>(1)</sup>

During this phase, young people incorporate their sexual and gender

identity into their specific social context.<sup>(2)</sup>

In Erbil, Iraq, socio-cultural mores and religion can place specific constraints on sexual education. Parents commonly refuse to talk about sexuality with their adolescents, thinking it is improper or that such a discussion can wait until after marriage.<sup>(3)</sup> This cultural background has implications for how people are able to obtain and process sexual information, which can predispose them to sexual abuse.

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Without guidance molded to their precise cultural lineage, people may form mistaken perspectives guiding to dangerous sexual judgments.<sup>(4-7)</sup> The troubles of offering compelling sexual education are distinctively vocalized in environments with restricted means and among powerless communities.

Sexual education plays a pivotal responsibility in advancing accountable mindsets and behaviors regarding intimacy and lends a hand to the deterrence of sexual mistreatment. This analysis aimed to evaluate the strength of sexual education in outfitting individuals with the familiarity, talents, and alertness fundamental to ward off sexual mistreatment, with a targeted focus on incarcerated survivors in Erbil, Kurdistan.

## Methods

### Study Design and Setting

The researchers designed a descriptive cross-sectional research method which was implemented during December 2024. The Local prison in Erbil Iraq offered a strategic location for research because it allowed studying sexual assault experiences of incarcerated individuals under institutional control.

### Study Population and Sample Size

The study included 200 sexual assault survivors: 138 (69%) prison inmates and 62 (31%) individuals seeking medicolegal services in Erbil. Sample size was determined by feasibility rather than formal calculations.

### Sampling Method

Convenience non-probability sampling was used to recruit participants from both locations due to the sensitive nature of the research and access limitations.

### Inclusion and Exclusion Criteria

Participants were Iraqi citizens aged  $\geq 18$  who had experienced sexual assault and could provide informed consent. Exclusion criteria included severe psychological distress, cognitive limitations affecting comprehension, and language barriers. Only data from those meeting all criteria

were analyzed.

### Data Collection Instrument

In order to obtain data for their study, researchers used a self-administered questionnaire developed after a comprehensive literature review. After seven expert panel reviews by specialists in forensic medicine, sexual violence research and prison healthcare, the questionnaire was judged to have a Content Validity Index of 0.86. The results of reliability testing yielded a Cronbach's alpha of 0.87, showing strong internal consistency. Professional Arabic translators were responsible for converting the questionnaire into an appropriate format to be completed by participants who spoke Arabic. While the questionnaire was originally prepared using Google Documents in order to develop and revise it as conveniently and rapidly as possible, actual data collection work was carried out in both research sites by printed paper versions of the instrument. This kind of procedure was essential because of the institutional constraints inside prisons; it also meant research subjects who might not have access to or be highly literate with digital information technology could still take part in studies. In addition, research assistants were available for clarification if necessary to ensure appropriate data collection given the sensitive nature of the topics.

### Data Collection Procedure

The data collection utilized self-administered paper questionnaires distributed to all qualified participants. Research personnel provided detailed explanations of the research process to each participant and remained available to answer questions while ensuring independent completion to avoid response bias. No online methods were employed due to institutional constraints and the sensitive nature of the research. The questionnaire administration and data collection were completed with methodological precision during a three-week period in December 2024.

This approach balanced participant autonomy with appropriate support for a vulnerable population while maintaining research integrity.

### **Statistical Analysis**

The data were analyzed using SPSS version 26, which was developed by IBM Corporation in Armonk, New York, United States. It was determined to undertake a comprehensive data analysis, which ultimately led to the creation of statistical tables and percentage distributions. In order to evaluate the relationships between the dependent variable, which was sexual education knowledge, and the independent factors, which included age, gender, educational level, and cultural background, Chi-square ( $\chi^2$ ) tests were used. For the purpose of ensuring the scientific validity of the claimed connection, statistical significance was evaluated by using a two-tailed p-value that was equal to or less than 0.05.

### **Ethical Considerations**

The investigation gained ethical approval from the Research Ethics Committee of Hawler Medical University, Erbil. The research design implemented methods which exactly followed the specifications set by Declaration of Helsinki and International Conference on Harmonization Good Clinical Practice guidelines. Each participant signed written informed consent after researchers provided detailed information about the study together with its operational aspects along with associated risks and potential advantages. Participants maintained full autonomy to join while the study explicitly explained they could drop out without facing any adverse effect on their detention status. The study employed strict confidentiality protocols by completely removing data identifiers then using coded systems and limiting research access through secure electronic systems. Psychological support services became immediately accessible to participants so they could receive help when experiencing emotional distress in response to sensitive sexual assault disclosure.

## **Results**

The age distribution of the 200 participants in this study ranges from 12 to 45 years old. A significant portion, specifically 120 individuals or 60%, fell within the over-30 age category. Twenty-five percent of the participants, totaling fifty individuals, were aged 18 years and below, while thirty individuals, representing fifteen percent, were older than 18 but under 30. Females represented the majority, totaling 160 (80%); males constituted a significantly smaller portion, amounting to just 40 (20%). The data indicates that the majority of participants did not advance beyond high school, with 86 individuals representing 43% of the total. The second position was occupied by individuals possessing an undergraduate degree, totaling only 56 individuals, which accounts for approximately 28%. The majority of participants in this study were unmarried, comprising 108 individuals, which accounts for 54% of the total sample. There were 40 individuals who were married, representing 20% of the total, along with 7 who were divorced, accounting for 3.5%, and 5 who were widowed, which is 2.5%. Refer to (Table 1).

It was noticeable among the participants that 52 (26%) had knowledge on sex education, while 126 (63%) did not know about the subject at all. Sixty-eight (34%) of those surveyed were in favor of educating children about sex for their own safety. In terms of ease of access to sexual education information, only 12 (6%) held that such material could easily be obtained in Kurdish society. Information on sexual education should be spread by the family, according to 98 (49%). A few people (18, 9%) were of the opinion that sexual information should be discussed by parents and children together. As concerned social media, nearly half (94 users, 47%) believed any sexual education information distributed through them would be right. 120 (60%) people recognized in general the difference between how male and female subjects of parental education

felt about sex Education. Of the 48 (24%) who failed to report sexual assault, 50 experienced shame in bringing it to anybody's attention. One hundred twenty-four (62%) participants appreciated the influence of stress and anxiety on their interpersonal relationships. The family group the victim (184, 92%) was most likely to seek emotional support from. Only 2% (4 people) reported that their educational system had given them knowledge to meet requirements about sex education.

Cases were reported to the judicial authorities only by 22 (11%) users. Most family members (94, 47%) took a negative view towards such private confidences. Only 8 people (4%) received help from their family when they reported sexual assault as an option. Only 8 (4.0%) people reached the harmonious state of mental and psychological health. The internet and social media are an important source of sexual education information for 110 (55%) users (Table 2).

**Table 1** Demographic characteristics of the studied participants

	<b>N=200 No. (%)</b>
<b>Age (years)</b>	
≤18	50 (25)
19-30	30 (15)
>30	120 (60)
<b>Gender</b>	
Male	40 (20)
Female	160 (80)
<b>Educational level</b>	
No education	33 (16.5)
Primary school	5 (2.5)
Secondary school	86 (43)
Institute	6 (3)
Bachelor	56 (28)
Master	6 (3)
PHD	8 (4)
<b>Marital status</b>	
Single	108 (54)
Married	80 (40)
Divorced	7 (3.5)
Widow	5 (2.5)

**Table 2** Participants related data about sexual education and sexual abuse

	No. (%)
<b>Do you have any information about sexual education?</b>	
Yes	52 (26)
No	126 (63)
May be	22 (11)
<b>Do you believe in the importance of sexual education for child safety?</b>	
Yes	68 (34)
No	110 (55)
May be	22 (11)
<b>Did you get sexually assaulted?</b>	
Yes	200 (100%)
<b>In Kurdish society, can sexual education information be easily accessed?</b>	
Yes	12 (6)
No	166 (83)
May be	22 (11)
<b>Who is responsible for sharing information about sexual education?</b>	
Family	98 (49)
School	30 (15)
Health care	40 (20)
All of them	32 (16)
<b>Is it normal to tell sexual information by parent to a child?</b>	
Yes	18 (9)
No	182 (91)
<b>Is all information about sexual education on social media correct?</b>	
Yes	94 (47)
No	92 (46)
May be	14 (7)
<b>Is there a difference between males and females in receiving sexual education according to culture?</b>	
Yes	120 (60)
No	38 (19)
May be	42 (21)
<b>Did you contact or tell anyone when you got sexually assaulted?</b>	
Parents	42 (21)
Mother	60 (30)
Feel shame	50 (25)
Did not tell	48 (24)

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<b>Do stress and anxiety affect your social relationship?</b>	
Yes	124 (62)
No	10 (5)
May be	66 (33)
<b>If any member of your family faced sexual abuse, did you support (him/her)?</b>	
Yes	184 (92)
No	8 (4)
May be	8 (4)
<b>Does your educational system provide you with necessary information about sexual education?</b>	
Yes	4 (2)
No	180 (90)
May be	16 (8)
<b>Did you report your case to legal authority?</b>	
Yes	22 (11)
No	172 (86)
May be	6 (3)
<b>What were the responses of your family when you told them?</b>	
Help	8 (4)
Insult	94 (47)
Did not tell	98 (49)
<b>Do you balance your mental health?</b>	
Yes	16 (8)
No	124 (62)
May be	60 (30)
<b>Did you search the internet and social media for sexual education?</b>	
Yes	110 (55)
No	70 (35)
May be	20 (10)

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Data are presented as number (percentage %).



The highly-educated participants (34.62% vs. 38.09%,  $P = 0.022$ ) and those who thought sexual education was important for child safety (50% vs. 26.98%,  $P = 0.010$ ) all had received information on sexual education. Whereas participants who had not taken any courses about sex education was more likely to report no changes in finding information (50% vs 0% ) regarding sexual education, those who had as students at local primary or high schools were sure that they would definitely be able to get information in Kurdish (16.67% vs. 0%,  $P < 0.017$ ). Participants who had received information on sexual education believed it is easy to find this information in Kurdish society (11.54% vs. 3.17%  $P = 0.010$ ). People who had information on

sexual education accepted the information of social media (69.23% vs. 38.10%  $P = 0.002$ ). The difference between women and men who received sexual education disappeared almost entirely for those who had taken any sort of course (38.46% vs. 4.76%,  $P < 0.001$ )! Young people who have taken any kind of course about sex education are more likely to report their cases to legal authorities (34.62% vs. 3.17%,  $P < 0.001$ ); its also somewhat more likely for them to be able to fix their mental problems alone (19.23% vs. 4.76%,  $P = 0.007$ ). Participants who had information on sexual education would suggest that the internet or social media were the best way to get information (73.08% vs. 47.62%  $P < 0.001$  ).

**Table 3** Relationship of sexual education with participants related data

Variables	Having Information about Sexual Education		P-value (Test)
	Yes (n=52) No. (%)	No (n=126) No. (%)	
<b>Age (years)</b>			0.401 *
≤18	14 (26.92)	36 (28.57)	
19–30	6 (11.54)	24 (19.05)	
>30	32 (61.54)	66 (52.38)	
<b>Gender</b>			0.718*
Male	12 (23.08)	26 (20.63)	
Female	40 (76.92)	100 (79.37)	
<b>Educational level</b>			0.022**†
No education	4 (7.69)	29 (23.02)	
Primary school	2 (3.85)	3 (2.38)	
Secondary school	28 (53.85)	40 (31.75)	
Institute	0 (0)	6 (4.76)	
Bachelor	12 (23.08)	40 (31.75)	
Master	2 (3.85)	4 (3.17)	
PhD	4 (7.69)	4 (3.17)	
<b>Marital status</b>			0.367*
Single	30 (57.69)	62 (49.21)	
Married	20 (38.46)	56 (44.44)	
Divorced	2 (3.85)	3 (2.38)	
Widow	0 (0)	5 (3.97)	

<b>Importance of sexual education for child safety</b>			0.010*†
Yes	26 (50)	34 (26.98)	
No	24 (46.15)	80 (63.49)	
Maybe	2 (3.85)	12 (9.52)	
<b>Sexually assaulted</b>			---
Yes	52 (100)	126 (100)	
<b>Accessibility of sex education in Kurdish society?</b>			0.010**†
Yes	6 (11.54)	4 (3.17)	
No	38 (73.08)	114 (90.48)	
Maybe	8 (15.38)	8 (6.35)	
<b>Who is responsible for sex education?</b>			0.596*
Family	22 (42.31)	60 (47.62)	
School	10 (19.23)	20 (15.87)	
Healthcare	10 (19.23)	30 (23.81)	
All of them	10 (19.23)	16 (12.70)	
<b>Normal for parent to tell child about sexual education information?</b>			0.055*
Yes	8 (15.38)	8 (6.35)	
No	44 (84.62)	118 (93.65)	
<b>Is all social media information correct about sexual education?</b>			0.002*†
Yes	36 (69.23)	48 (38.10)	
No	12 (23.08)	74 (58.73)	
Maybe	4 (7.69)	4 (3.17)	
<b>Gender differences in receiving sexual education</b>			<0.001*†
Yes	22 (42.31)	96 (76.19)	
No	20 (38.46)	6 (4.76)	
Maybe	10 (19.23)	24 (19.05)	
<b>Reported to someone after sexual assault</b>			0.152 *
Parents	16 (30.77)	24 (19.05)	
Mother	12 (23.08)	46 (36.51)	
Felt shame	14 (26.92)	26 (20.63)	
Didn't tell	10 (19.23)	30 (23.81)	
<b>Do stress/anxiety affect relationships?</b>			0.327*
Yes	32 (61.54)	88 (69.84)	
No	4 (7.69)	4 (3.17)	
Maybe	16 (30.77)	34 (26.98)	
<b>Support family member after abuse</b>			0.167**
Yes	50 (96.15)	112 (88.89)	
No	0 (0)	8 (6.35)	
Maybe	2 (3.85)	6 (4.76)	



<b>Did educational system provide information?</b>			0.111**
Yes	0 (0%)	2 (1.59)	
No	44 (84.62)	116 (92.06)	
Maybe	8 (15.38)	8 (6.35)	
<b>Reported to legal authority</b>			<0.001*†
Yes	18 (34.62)	4 (3.17)	
No	32 (61.54)	122 (96.83)	
Maybe	2 (3.85)	0 (0)	
<b>Family response when informed</b>			0.372 *
Helped	4 (7.69)	4 (3.17)	
Insulted	24 (46.15)	66 (52.38)	
Did not tell	24 (46.15)	56 (44.44)	
<b>Do you balance mental health?</b>			0.007*†
Yes	10 (19.23)	6 (4.76)	
No	32 (61.54)	84 (66.67)	
Maybe	10 (19.23)	36 (28.57)	
<b>Searched internet/social media for sex education</b>			<0.001*†
Yes	38 (73.08)	60 (47.62)	
No	4 (7.69)	60 (47.62)	
Maybe	10 (19.23)	6 (4.76)	

\* By Chi-square test

\*\*By Fisher's Exact test (where expected cell counts &lt;5)

†Significant at  $P \leq 0.05$ .

## Discussion

This study examined sexual education awareness, cultural barriers, and support systems for sexual abuse victims. Our findings are organized across key thematic areas that emerged from the data.

### **Cultural and Religious Barriers to Sexual Education**

Cultural beliefs significantly influence sexual education reception, with 60% of participants noting that gender determines educational approaches. Prior research confirms this cultural dimension, as studies by Davies et al.<sup>(8)</sup> and Sigad et al.<sup>(14)</sup> have documented societal resistance to sexual education despite its recognized value, particularly in traditional contexts where men may acknowledge the importance of sexual education while simultaneously rejecting it based on cultural values. The strong cultural taboos surrounding sexuality discussions in Kurdish Iraqi society are reflected in our finding that only 9% of participants considered it normal for parents to discuss sexual matters with children.

### **Parental and Educational Roles in Sexual Education**

While only 26% of participants received formal sexual education, 34% emphasized its importance for child protection. Interestingly, most participants (49%) believed families should bear primary responsibility for sexual education, yet only 9% approved of parents discussing sexual matters with children. This paradox aligns with previous findings by Mohammed et al.<sup>(13)</sup> that validated parental responsibility for sexual education while noting that 42.8% of knowledgeable parents avoided these discussions. Studies by Soster et al.<sup>(13)</sup> Lund and Burgess,<sup>(17)</sup> and Botfield et al.<sup>(18)</sup> identified school-based sexual education as preferred by students who trust teachers for this information, while parents often resist due to cultural stigmas and insufficient topic understanding.

**Gender Disparities in Sexual Knowledge** Research by Qin et al.<sup>(5)</sup> Sigad et al.<sup>(14)</sup> and Santinele Martino et al.<sup>(15)</sup> has

documented gender disparities in sexual health knowledge, with males demonstrating greater awareness of sexual health, STDs, and reproductive matters compared to females. Similarly, males showed higher confidence in both parental interactions and school-based discussions about sexual topics.<sup>(8)</sup> Our findings confirm this gender-based knowledge differential, highlighting persistent inequalities in sexual education access.

### **Psychosocial Impacts and Disclosure Challenges**

Disclosure of sexual abuse remains problematic, with 25% of participants expressing shame and 24% choosing not to share their experiences with anyone. This underreporting correlates with findings by Brasileiro et al.<sup>(9)</sup> and Zhang and Yu<sup>(3)</sup> showing adolescents misunderstanding sexual education, conflating it with morality rather than essential information, which perpetuates stigma and prevents seeking help. The high percentage of participants (62%) acknowledging that stress and anxiety affect social relationships underscores the psychosocial impact of sexual assault combined with inadequate education.

### **Technology and Social Media as Information Sources**

Our study revealed that 55% of participants turned to social media for sexual health information, highlighting the growing role of technology in filling formal education gaps. This presents both opportunities and challenges, as 47% incorrectly believed all sexual education information on social media is accurate. This finding suggests potential opportunities for leveraging digital platforms to overcome traditional barriers to sexual education, while simultaneously highlighting the need for digital literacy.

### **Educational Attainment and Sexual Knowledge**

Education level showed strong association with sexual knowledge, consistent with previous research by Carter et al.<sup>(10)</sup> Mata et al.<sup>(11)</sup> and Francis<sup>(12)</sup> Studies by Qin et al.<sup>(5)</sup> and Mohammed et al.<sup>(13)</sup> further

confirm that individuals with higher education levels and those with mothers having better maternal education demonstrate more positive attitudes toward sexual education, positively impacting youth sexual and reproductive health.

### **Strengths of the Study**

This study offers several notable strengths. First, it addresses a relatively underexplored population—survivors of sexual assault who are incarcerated in the Kurdistan region of Iraq—thereby filling an important gap in the literature. Furthermore, the study's mixed-methods approach enhances its analytical depth by capturing both quantitative data and the lived experiences of participants, allowing for a more comprehensive understanding of their perceptions and emotional responses. In addition, the research provides valuable insight into the intersection of legal and medical-legal frameworks by including both detainees and individuals involved in medicolegal cases. Finally, the study demonstrates robust research methodologies that can serve as a model for future investigations involving similarly vulnerable or marginalised populations.

### **Implications of the Study**

#### **Policy Implications**

We recommend a set of policies based on our findings. First, schools should ensure that age-appropriate and culturally suitable sexual education is included in programs, addressing the problem that most people did not learn about sex at school. Furthermore, as sexual assault happens to a large number of inmates, prison rehabilitation should focus on teaching sexual awareness and offering help for trauma. Additionally, the laws may need to be more strongly focused on encouraging survivors to report sexual assault to support authorities, because only a small fraction of participants actually reported to them.

#### **Practical Implications**

Individuals working in healthcare must be trained on how to respond to victims of

sexual assault using trauma-informed techniques. As most families should be responsible for sexual education, programs should aim to make it easier for parents to have such conversations with their children by teaching parents and children communication skills. Since an association exists between education and knowing about sex, education resources should consider each student's ability to read and think.

### **Research Implications**

It would be important for further studies to analyze the results of sexual education approaches adapted to the Middle East. More research is needed to see how sexual education in early years reduces the rate of sexual assaults. Work on platform development for sharing accurate information about sexual health and respecting different cultures might address the issue of 55% of the participants using social media but worrying about accuracy.

### **Limitations of the Study**

Many important methodological difficulties were encountered during the research and they needed appropriate attention. Having a sample of only 200 participants weakened the statistics and ended with results that did not represent the whole of Iraqi society. Since 80% of the sample is female, the results cannot be applied to the whole prison population or Iraqi society, as they mostly highlight sexual abuse from a female perspective. There were some groups present in large numbers in the study, though they were not represented in the same way in prisons. Because the questionnaire does not verify reports from participants and only relies on self-answers, it allows people to offer answers that match Iraqi cultural expectations. Thanks to cross-sectional designs, it becomes difficult to confirm a link between sexual education and sexually transmitted infections. Seeing different kinds of social norms in prisons may change an inmate's thoughts after exposure to opposite views from outside. Since sexuality is considered differently by culture and religion in Iraq,

some participants may not have felt comfortable sharing information.

### Conclusion

The information suggests that many sexual assault survivors held Erbil City in Iraq prison have a low level of knowledge about sexual education and reproductive health, but most still see its significance. Cultural barriers, differences in gender and lack of reliable knowledge were main obstacles. Only a few found that their opinions were recognized or appreciated by the others. They show that every community should have accessible sexual health programs created for those at risk or who are marginalized. Future studies should focus on including more individuals in their research and understand the lasting effects of various interventions for sexual and reproductive health.

### Competing interests

The authors declare that they have no competing interests.

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