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Effect of a Health Belief Model–Based Educational Program on University Students' Knowledge and Beliefs Regarding Sexual Harassment

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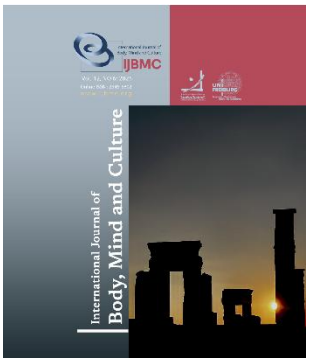

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ABSTRACT

Objective: Sexual harassment is a pervasive global issue that poses serious physical, psychological, and social threats to university students, particularly females. The high prevalence of harassment in academic environments highlights the urgent need for effective preventive strategies. This study aimed to evaluate the effect of a Health Belief Model–based educational program on university students' knowledge and beliefs concerning sexual harassment.

Methods and Materials: A quasi-experimental pre- and post-test design was conducted at Sumer University, Iraq, involving 335 first-year female students from the Faculties of Medicine (n=215) and Science (n=120). Data were collected using a validated self-administered questionnaire assessing participants' knowledge and HBM constructs (perceived susceptibility, severity, benefits, barriers, cues to action, and self-efficacy) before and after the intervention. The educational program was tailored according to HBM principles to promote behavioral change.

Findings: Following the Health Belief Model–based educational intervention, students showed significant improvements in knowledge and beliefs across all HBM constructs ($p < 0.001$), with increased perceived susceptibility and self-efficacy, and reduced perceived barriers. The findings indicate a positive shift toward greater awareness and motivation to prevent sexual harassment.

Conclusion: The HBM-based educational intervention significantly improved students' knowledge and beliefs about sexual harassment, leading to increased awareness, reduced perceived barriers, and greater readiness to take preventive action. These results demonstrate the effectiveness of theory-driven initiatives in encouraging behavioral change and fostering a safer campus community.

Keywords: Chronic fatigue syndrome; Health anxiety; Spiritual vitality; Social support; Lifestyle; Structural equation modeling.

Introduction

A significant worldwide public health concern is sexual harassment, especially in educational institutions where young women are disproportionately impacted. It seriously affects students' social development, academic achievement, and psychological health in addition to putting their safety at jeopardy (Bondestam & Lundqvist, 2020; Fitzgerald et al., 2015). College female students frequently encounter verbal, physical, and nonverbal types of harassment, which can result in social disengagement, mental health issues, anxiety, and depression (Campbell et al., 2019). Many institutions lack evidence-based, culturally relevant, and successful strategies to prevent and address harassment, despite heightened awareness.

The Health Belief Model (HBM) offers a robust theoretical framework for guiding behavior modification interventions. The Health Belief Model posits that an individual's willingness to engage in health-protective behaviors is influenced by their perceived susceptibility to health threats, perceived severity of outcomes, perceived benefits of preventive measures, perceived obstacles, prompts to action, and self-efficacy (Champion & Skinner, 2018).

Although the Health Belief Model (HBM) has demonstrated effectiveness in enhancing awareness and preventive behaviors in diverse health areas, there is a paucity of research utilizing this framework to address gender-based violence, including sexual harassment among university students in Middle Eastern settings. Cultural taboos, inadequate sexual education, and misconceptions on the causes of harassment frequently obstruct substantive dialogue and prevention efforts (El-Gibaly et al., 2019). Consequently, treatments based on culturally pertinent health behavior models are critically required.

A poll by a women's university rights organization indicated that 38.8% of women in Iraq experienced physical sexual harassment, 30.6% received verbal harassment, and over 15% suffered subtle forms, including inappropriate comments or jokes (The Tackling, 2010).

In Iraq, where discussions on harassment are still developing, it is crucial to empower female university students through culturally tailored educational initiatives. This study is to assess the efficacy of a Health Belief Model-based educational program in enhancing knowledge and altering health beliefs concerning harassment avoidance among first-year female university students. Understanding how these interventions can alter perceptions and enhance protective measures is crucial for informing institutional policy and promoting safer academic environments.

The study underscores the significance of health education frameworks in atypical domains, such as violence and harassment prevention. It offers empirical data for universities, governments, and educators to execute focused actions. This corresponds with international initiatives to foster secure, inclusive, and gender-responsive educational establishments.

This research advocates for the incorporation of health belief-based training into university curricula and student orientation programs to empower young women, facilitate behavioral change, and foster a culture of safety and respect on campus.

The study is significant for its twin contribution: it offers factual data on the prevalence and types of harassment encountered by female university students in Iraq and assesses the efficacy of an intervention designed for local cultural and educational circumstances. This research enhances students' knowledge and alters their beliefs using HBM-based teaching, hence improving protective behaviors and diminishing tolerance for harassment in academic settings.

Methods and Materials

Study Design and Setting

This study employed a quasi-experimental, pre- and post-test design to assess the effectiveness of a Health Belief Model (HBM)–based educational intervention on university students' knowledge and beliefs regarding sexual harassment. The research was conducted at Sumer University, Iraq, during the academic year 2024–2025.

Participants and sampling

A total of 335 first-year female students were purposively selected from the Faculties of Medicine (n = 215) and Science (n = 120). Inclusion criteria consisted of being a first-year student aged between 18 and 24

years, female, willing to participate, and able to attend the full duration of the educational sessions. Students who had previously received formal education or training on sexual harassment were excluded.

Data Collection Instrument

Data were collected using a structured, validated, and self-administered questionnaire designed to measure students' knowledge about sexual harassment, 15 multiple-choice and true/false items measuring understanding of sexual harassment, its types, causes, consequence, and their beliefs based on the core constructs of the Health Belief Model. These constructs included perceived susceptibility, perceived severity, perceived benefits, perceived barriers, cues to action, and self-efficacy. **Constructs:** A 5-point Likert scale assessing perceived susceptibility, severity, benefits, barriers, cues to action, and self-efficacy (Cronbach's alpha = 0.81). The questionnaire was reviewed for content validity by a panel of experts and pilot-tested for reliability before administration.

Pre-intervention data were collected one week before the educational program. Post-intervention data were collected two weeks after the final session.

Educational Intervention

The educational course was created according to the principles of the Health Belief Model, encompassing perceived vulnerability, severity, benefits, barriers, cues to action, and self-efficacy. The material concentrated on delineating sexual harassment, pinpointing prevalent situations in academic environments, acknowledging the psychological and educational repercussions, and comprehending rights and protecting measures.

The intervention consisted of four interactive sessions, each lasting 60 minutes, delivered over two weeks. Sessions utilized a combination of lectures, group discussions, case studies, and role-playing activities. Content was culturally sensitive and reviewed by experts in public health, psychology, and female studies to ensure relevance and appropriateness.

Participant Educational Program

The educational program was designed and implemented based on the Health Belief Model (HBM) framework, aiming to improve university students' knowledge and beliefs regarding sexual harassment. The program integrated culturally appropriate content, interactive delivery methods, and behavior-change strategies grounded in the six core HBM constructs: perceived susceptibility, perceived severity, perceived benefits, perceived barriers, cues to action, and self-efficacy.

Program Objectives

- To enhance students' awareness and accurate understanding of sexual harassment.
- To modify distorted beliefs and misconceptions surrounding causes and responses to harassment.
- To empower students to recognize, prevent, and report harassment in academic and social settings.
- To strengthen students' self-efficacy in managing and responding to potential harassment situations.

Table 1

Session Plan Overview

Session	Title	HBM Construct Focus	Activities and Content Summary
1	*Understanding Sexual Harassment*	Perceived Susceptibility & Severity	Definition, types (verbal, physical, non-verbal), real-life case studies, group discussion on prevalence in university settings.
2	*Consequences and Cultural Dimensions*	Perceived Severity & Perceived Barriers	Psychological, academic, and social consequences; cultural silence and stigma; myth-busting misconceptions.
3	*Prevention and Protective Strategies*	Perceived Benefits & Cues to Action	Rights and laws, strategies to respond and report, assertiveness training, and university policy overview.
4	*Empowerment and Advocacy*	Self-Efficacy & Cues to Action	Role-playing scenarios, peer-led discussion, identifying support systems, and referral pathways.

Instructional Methods

- **Interactive Lectures:** Brief presentations with visual aids to introduce key concepts.
- **Group Discussions:** Open dialogue to encourage reflection and peer exchange of experiences.
- **Role-Playing and Case Analysis:** Realistic scenarios to apply learned strategies and enhance decision-making skills.
- **Printed Booklet:** Each participant received a culturally tailored educational booklet summarizing key messages.
- **Multimedia Tools:** Short educational videos illustrating harassment dynamics and prevention strategies.

Facilitator Team

The program was delivered by a multidisciplinary team including:

- A public health educator
- A clinical psychologist
- A women's rights legal advisor

All facilitators received prior orientation on the content, HBM principles, and culturally sensitive delivery.

Participant Engagement and Evaluation

To ensure active participation, students were encouraged to ask questions, share experiences, and provide feedback. Attendance was recorded, and participants completed both pre- and post-program assessments to measure changes in knowledge and HBM-related beliefs.

Statistical Analysis:

Data were analyzed using SPSS (Statistical Package for the Social Sciences) version 24. Descriptive statistics (frequency, percentage, mean, and standard deviation) were used to describe demographic data. Paired t-tests and chi-square tests were used to compare pre- and post-intervention scores. Statistical significance was set at $p < 0.05$.

Findings and Results

The data indicates that the majority of respondents were aged 20–21 (59.7%), signifying that the sample primarily comprised young adults, a common trait of university demographics. A considerable percentage of participants were single (86.5%), indicating the prevalent marital status among students in this demographic. Moreover, an alarming 89.5% indicated inadequate monthly income, 53.7% reported a low socioeconomic status, and 73.6% reside in metropolitan environments.

Table 2

Demographic Characteristics of Participants

Demographic Characteristic	Category	Frequency (n = 335)	Percentage (%)
Age	20-21 years	200	59.7
Marital Status	Single	290	86.5
Monthly Income	Insufficient	300	89.5
Social level score	low social level	180	53.7
Residence	Urban		73.6

Table 3 reveals that the most frequent types were verbal communication (80.0%) and verbal reversals (78.0%), indicating that verbal abuse is the most common form of harassment.

Furthermore, 68.0% indicated encountering nonverbal sexual cues, including unwanted gestures. Physical contact was infrequent however alarming, with 14.8% indicating unwelcome touching and 28.0% indicating intentional hand contact. Significantly, no instances of attempted sexual assault or rape were documented; however, the occurrence of alternative types of harassment underscores a widespread concern.

Table 3

Frequency Distribution of University Students' Knowledge about Types of Harassment (n = 335)

Types of Harassment	Frequency (N)	Percentage (%)
Verbal communication	200	80.0%
Verbal reversals	195	78.0%
Sexual signs (e.g., eye, hand gestures)	170	68.0%
A closer look caused discomfort	122	48.8%
Deliberate hand touching	70	28.0%
Delivering sexual jokes	68	27.2%
Touching parts of the body	37	14.8%

The pie chart provides a visual summary of how female students attribute the causes of sexual harassment.

Significantly, advanced married age and diminished religious or moral ideals were identified as the predominant variables, each representing 94.0% of respondents. These are closely succeeded by insufficient sexual education, erroneous socialization, and elevated marital costs, all above 88% in prevalence.

This distribution indicates a comprehensive understanding among students that both personal development (education and socialization) and society constraints (economic and cultural norms) are key factors. The picture highlights the complex nature of harassment hazards, indicating that preventive measures must be multifaceted, targeting both individual awareness and institutional and cultural reforms.

Figure 1

Frequency Distribution of Female Students' Knowledge about Causes of Exposure to Sexual Harassment (n = 335)

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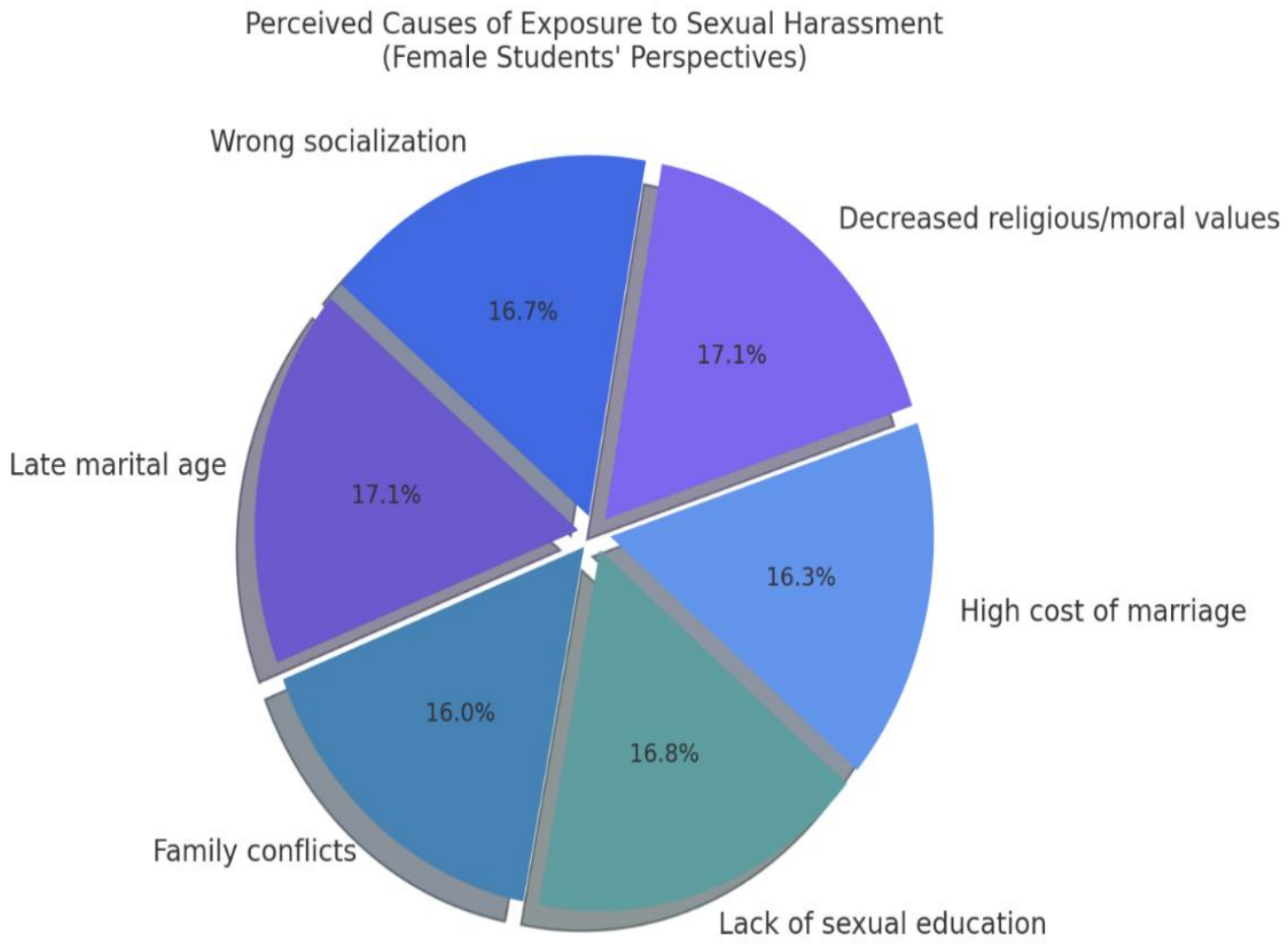


The bar chart entitled "Effects of Sexual Harassment on University Students" illustrates the frequency of various affects seen by students.

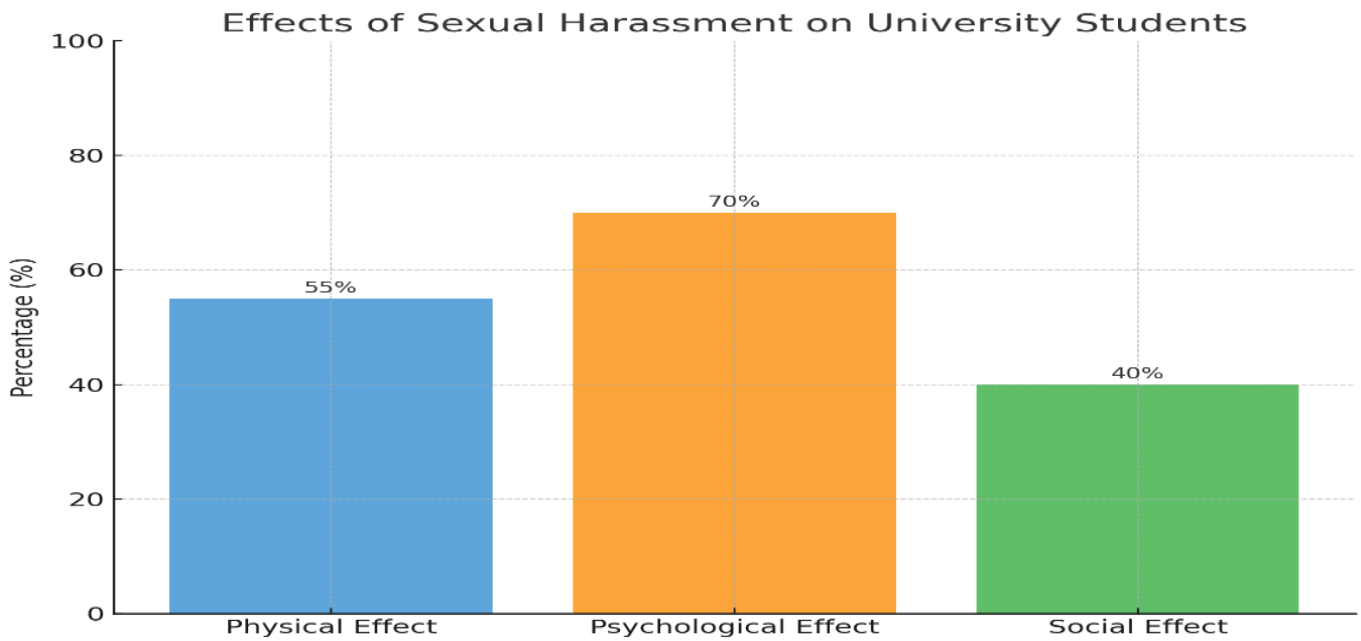
•Seventy percent of pupils said that psychological effects were a worry. Among the serious psychological and emotional repercussions of sexual harassment include anxiety, despair, dread, and trauma.

• More than half of the students (55%) said they had experienced bodily symptoms or repercussions. These might have included headaches, sleep issues, or other stress-related conditions. Forty percent of respondents mentioned social repercussions, indicating that many experienced relationship dissolution, social disengagement, or adjustments to their campus activities.

The most noticeable of the many effects of sexual harassment on students, as shown in this graphic, are the psychological ones. It highlights the critical need for mental health support services, awareness campaigns, and preventative measures in educational settings. Policies that target harassment and provide survivors with comprehensive aftercare are supported by the data.

Figure 2

Final Model of the Study



Following the educational intervention, there was a significant improvement in all aspects of the Health Belief Model (HBM), as shown in Table 4. Each construct showed statistically significant differences ($p < 0.001$), and there was a noticeable shift from negative to positive beliefs. Perceived obstacles considerably decreased, with positive attitudes increasing from 65.3% to 89.7%, and favorable opinions regarding perceived susceptibility improved from 66.7% to 85.4%. According to the HBM paradigm, the program's effectiveness in addressing key psychosocial determinants of health behavior is demonstrated by the results, which show that the intervention successfully enhanced participants' health perceptions and desire for behavioral change.

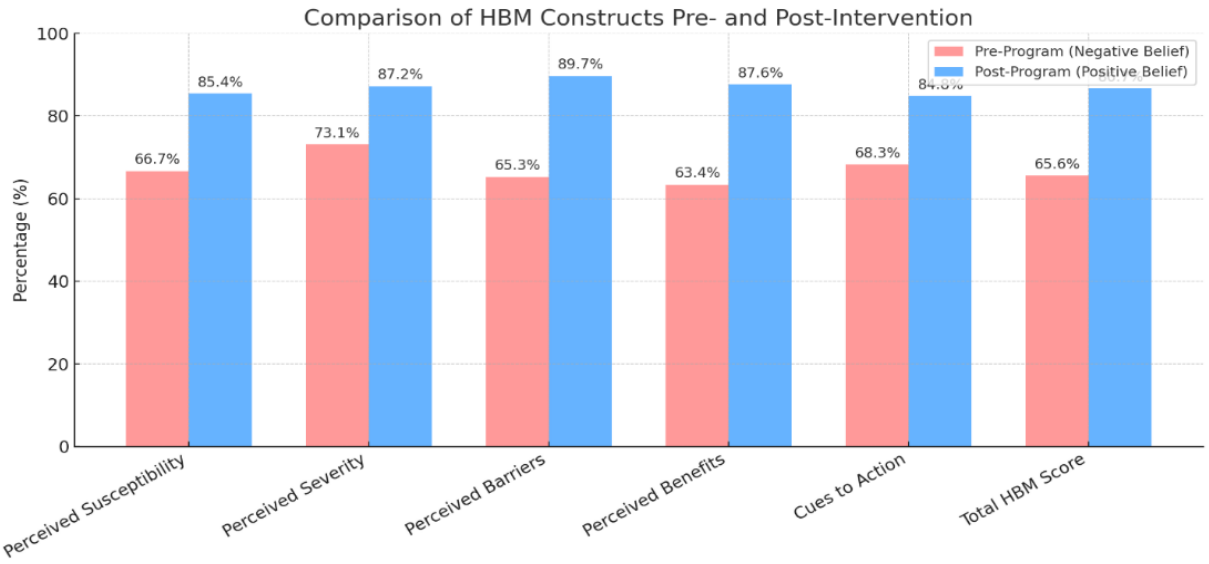
Table 4

Health Belief Model (HBM) Constructs Pre- and Post-Intervention

HBM Construct	Negative Belief (Pre-Program)	Positive Belief (Post-Program)	p-value
Perceived Susceptibility	66.7%	85.4%	< 0.001
Perceived Severity	73.1%	87.2%	< 0.001
Perceived Barriers	65.3%	89.7%	< 0.001
Perceived Benefits	63.4%	87.6%	< 0.001
Cues to Action	68.3%	84.8%	< 0.001
Total HBM Score	65.6% (Negative)	86.7% (Positive)	< 0.001

Figure 3

Final Model of the Study



Discussion and Conclusion

According to Table 1 demographic profile of the sample under study, the majority of female university students were in their early twenties and mostly pursued careers in science and medicine, two disciplines relevant to health. The majority belonged to the low-middle socioeconomic level, were unmarried, and came from reasonably sized households. These traits are indicative of a standard female university demographic in various Middle Eastern settings and imply that the participants may be experiencing a developmental phase marked by heightened susceptibility to psychosocial stresses, such as sexual harassment (Alquaiz et al., 2012).

The educational attainment and job position of parents, especially the elevated incidence of woman unemployment, may provide further background for students' understanding and experiences. Prior studies have demonstrated that parental socioeconomic status can affect students' coping abilities, risk exposure, and resource accessibility in university environments (El-Gazzar & Awad, 2020).

The results shown in Table 2 are particularly alarming, since almost 74.6% of students reported previous experiences of harassment, corroborating regional studies that designate university campuses as high-risk settings for gender-based violence (Baytiyeh, 2017). Verbal harassment was the most commonly reported form, aligning with global trends, however physical harassment was also observed. The spatial and temporal aspects of harassment, especially its prevalence in communal spaces like the university cafeteria during peak times, reveal both opportunistic conduct and institutional oversights in campus monitoring and safety measures.

Figure 1 provides an analytical viewpoint on students' perspectives concerning the fundamental causes of sexual harassment. All participants, 100%, ascribed harassment to inadequate legal sanctions, indicating a pervasive skepticism towards enforcement procedures. This corresponds with research indicating that insufficient institutional measures cultivate a culture of impunity and dissuade reporting (UNESCO, 2021). The findings underscore the imperative for legislative reform and improved enforcement strategies addressing both punitive and preventive dimensions.

Additional substantiated elements, such as postponed matrimony, weakened religious or ethical principles, and insufficient sexual education, exemplify a societal viewpoint on harassment rooted on projected moral decline and a deficiency in early guidance. These responses are shaped by dominant cultural narratives in various conservative nations, where female behavior and societal ethics are closely intertwined (Abu-Ras, 2017). While these viewpoints may suggest a desire for traditional stability, they also risk perpetuating victim-blaming and gender stereotypes if not critically examined through inclusive education.

Family instability was recognized as a major factor, with 88.1% of students reporting family conflict and

disintegration. This finding corresponds with psychosocial theories suggesting that early exposure to relationship disturbance may normalize aggressive or boundary-violating behavior in social contexts (Bandura, 1973). The recognition of economic challenges, like high marriage costs and poor income, indicates an understanding of systemic forces that may exacerbate behavioral issues or limit access to protective resources. Notably, 91.9% of interviewees recognized erroneous socialization as a contributing factor. This corresponds with findings from behavioral sciences that highlight the influence of early gender socialization, peer modeling, and cultural conditioning on attitudes regarding interpersonal respect and power dynamics (Connell, 2015). Confronting these entrenched attitudes and habits involves both individual education and a collective transformation within the society.

The findings together emphasize the interrelatedness of individual, familial, societal, and institutional elements in influencing the experience and continuation of harassment. The intervention based on the Health Belief Model in this study considerably enhanced knowledge and beliefs, as illustrated in Figures 1 and 2; nevertheless, sustained impact necessitates concurrent initiatives that tackle the sociocultural frameworks that normalize or justify harassment.

Consequently, successful harassment prevention necessitates a multisectoral approach that integrates: legislative reforms, enforcement of campus policies, gender-sensitive curricula, early sexual education, family support programs, and community-based awareness initiatives.

Comprehensive measures are vital for cultivating safer, equitable, and supportive academic environments where all students, irrespective of gender, can flourish.

Figure 2 illustrates the substantial physical hardship linked to sexual harassment experienced by female university students. Short-term somatic symptoms, including profuse sweating (65.7%), face erythema, and chilly, clammy hands (62.7%), signify acute sympathetic nervous system activation, a physiological indicator of stress. These manifestations align with the literature categorizing harassment as a traumatic stressor that can induce autonomic dysregulation, sometimes misconstrued as physical sickness (Banyard et al., 2019).

Prolonged, medium-term consequences, such as persistent fatigue (17.9%), headaches (17.9%), and appetite disorders, indicate the existence of chronic stress syndromes. Significantly, monthly irregularities (6.0%) and muscle tightness (5.4%) indicate the hormonal and muscular consequences of persistent psychological stress. These consequences correspond with the notion of somatization, wherein emotional distress manifests physically, especially in cultures that may inhibit candid emotional expression (Klein & Martin, 2020).

While a smaller number of students indicated they "always" experienced long-term physical effects, the occurrence of chronic fatigue and diagnosed cases of stomach ulcers and hypertension in 7.2% of the sample necessitate clinical consideration; these outcomes may indicate toxic stress mechanisms wherein prolonged cortisol elevation and inflammation lead to enduring harm across various bodily systems (Klein & Martin, 2020).

Psychological Distress (figure 2) delineates the psychological consequences of harassment, affirming its designation as a type of gender-based psychological violence. Anger and dread were the predominant short-term emotional responses, both reported as "always" by 32.2% of participants, indicating trauma-induced emotional dysregulation (Campbell et al., 2019). Students additionally indicated challenges with concentration (23.3%) and intrusive memory recollection (36.4%), which are characteristic symptoms of acute stress disorder.

In the medium term, elevated anxiety levels (19.7%) and avoidance behaviors (75.8%) were seen, indicating a potential onset of post-traumatic stress symptoms. Guilt, low self-esteem, and annoyance are signs of internalized stigma and can make people more likely to experience depression in the future. According to cognitive trauma theories, these reactions mirror the psychological growth that follows abuse, in which negative assessments of oneself and the outside environment develop (Fawole et al., 2012).

Long-lasting psychological consequences including sadness (4.5%) and chronic anxiety (19.7%), however less frequently reported, highlight a vulnerable population at risk for long-lasting mental health conditions. The absence of "happy" responses emphasizes the emotional seriousness of harassment and its potential to cause long-lasting affective disruption.

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The results emphasize how harassment has social repercussions that affect not just the victim but also peer relationships, gender dynamics, and decisions made in the future. In the short term, irritability and difficulties interacting with others were common, suggesting early signs of social withdrawal. Although this could serve as a protective tactic, there is a chance that it will exacerbate stigmatization and isolation (Moylan & Lindhorst, 2015).

The medium-term effects show a worrying pattern: 55.5% of students expressed a lack of confidence in others, and 29.3% of students considered leaving the university. These results point to declines in academic disengagement and social safety, which could have long-term effects on women's empowerment and educational success (World Health Organization, 2013).

The long-term implications were especially alarming. Approximately one-third of students (28.4%) consistently expressed a lack of confidence in men, and a comparable percentage reported ongoing distortions in gender attitudes. This indicates gender relational trauma, which can affect future interpersonal dynamics, romantic relationships, and the propensity to participate in coeducational or professional settings. Social isolation, indicated by 6.6% of individuals reporting it as a constant experience and 13.4% as occasional, signifies emotional numbing and withdrawal, which are critical indicators of complex trauma.

The data reveals the multisystemic impact of sexual harassment using the bio-psychosocial model. Harassment adversely affects both the physical and mental well-being of victims, while also impeding social engagement and academic achievement. These results corroborate prior research that identifies harassment as a social determinant of health, with both immediate and long-term consequences (UNESCO, 2021).

These findings substantiate the Health Belief Model's effectiveness in elucidating how perceived severity and susceptibility to harassment affect student reactions. Nonetheless, the mere augmentation of knowledge is inadequate. A comprehensive intervention plan is necessary, encompassing campus-wide awareness programs.

Institutional rules include explicit reporting procedures, Trauma-informed mental health services, peer support groups, and bystander intervention training. Socio-cultural education targeting gender norms and stigma

The current findings highlight the effectiveness of a Health Belief Model (HBM)–based educational intervention in markedly improving university students' knowledge and beliefs about sexual harassment avoidance. Table 3 demonstrates that prior to the intervention, 57.9% of participants displayed insufficient awareness on sexual harassment. Subsequent to the execution of the educational program, this percentage significantly decreased, with 95.9% of pupils exhibiting satisfactory knowledge levels. This significant enhancement not only indicates the immediate educational benefits of the program but also validates the openness of university students, especially those in initial academic phases, to formal education when presented within a culturally relevant and evidence-based context.

These findings align with previous work highlighting the significance of focused health education in enhancing awareness and behavioral readiness about gender-based violence (Fawole et al., 2012; Moylan & Lindhorst, 2015). Educational interventions based on proven health behavior theories, such as the HBM, aim to close the informational and perceptual gaps that frequently hinder proactive responses to harassment in academic environments.

Table 3 further substantiates the intervention's multifaceted effect by illustrating a significant transformation in students' belief systems. Prior to the teaching program, a substantial majority (80.0%) of the participants demonstrated unfavorable overall health views concerning harassment prevention. Following the intervention, this statistic significantly flipped, with 85.0% of students exhibiting a positive health belief model. The shift was statistically significant ($p = 0.001$; $\chi^2 = 32.18$ via a paired t-test), indicating that the educational program effectively conveyed factual information and transformed the psychological and affective factors influencing behavior.

The alteration in students' health beliefs can be analyzed using the Health Belief Model, specifically on increased perceived susceptibility, perceived severity, perceived benefits, and self-efficacy. These dimensions are crucial for initiating behavioral change, as they influence an individual's assessment of personal danger and their ability to undertake protective measures (Champion & Skinner, 2018). The program's alignment with these dimensions certainly enhanced cognitive

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engagement and elevated students' motivation to respond successfully to harassment.

Supporting these enhancements, correlation analyses demonstrated statistically significant and moderately positive associations between students' knowledge levels and their total HBM scores both before and after the intervention ($r = 0.318$ and $r = 0.342$, respectively; $p = 0.001$ for both). The findings indicate that enhanced knowledge correlates positively with more robust health beliefs about harassment prevention. The somewhat enhanced correlation noted post-intervention indicates that as students were provided with more organized and precise information, their attitudes increasingly conformed to evidence-based preventive actions.

These results substantiate a fundamental theoretical proposition of the HBM: knowledge acts as a crucial prelude to the alteration of beliefs. An improved comprehension of the reasons, manifestations, and repercussions of harassment, along with the accessible coping mechanisms, likely intensified the students' sense of urgency and personal agency. The statistical significance of the correlations ($p < 0.001$) validates the strength of the interaction between cognitive and attitudinal domains in behavior change theory.

The consequences of these findings are significant from both public health and gender equity viewpoints. To raise awareness and encourage belief-based motivation, they support the inclusion of methodical, theory-driven educational interventions in university curricula. The concurrent growth in understanding and belief creates a solid foundation for supporting behavioral modification and empowering students to recognize, confront, and prevent harassment.

These results provide credence to an all-encompassing, multifaceted approach to harassment prevention that incorporates information sharing, altering beliefs, and strengthening institutional regulations. Therefore, behavioral theory-based educational programs ought to be considered fundamental components of strategies for reducing harassment in higher education.

This study showed that university students' knowledge and attitudes about preventing sexual harassment were considerably enhanced by an educational intervention based on the Health Belief Model (HBM). The findings showed a significant change in the students' belief and attitude frameworks in addition to a notable improvement in their cognitive comprehension of harassment. The program successfully addressed the emotional and informational aspects of harassment, highlighting its capacity to be a transformative instrument in fostering gender-sensitive awareness and influencing preventive health practices.

This study emphasizes the extensive effects of harassment on young women's academic engagement and well-being by examining the bio-psychosocial repercussions of harassment, including its physical, psychological, and social toll. Furthermore, the association between belief transformation and knowledge acquisition supports the application of HBM as a theoretical and practical framework to direct the design of interventions in academic settings.

Educational institutions must embrace comprehensive, evidence-based measures that incorporate legal, cultural, psychological, and instructional tactics in light of the widespread nature of harassment and its multifaceted effects. A vital first step in creating safe, welcoming, and empowered learning environments for female students is incorporating organized health education on harassment into university curricula.

Based on the study's findings, the following recommendations are proposed:

1. Institutional Integration of Educational Programs: Universities should adopt and institutionalize Health Belief Model–based educational programs on harassment prevention as part of student orientation, general health courses, or campus safety curricula.
2. Multidisciplinary Support Services: Health and counseling centers on campus should be equipped to offer integrated services that address the physical, psychological, and social consequences of harassment, including trauma-informed care and referral systems.
3. Legal and Policy Reforms: University administrations, in collaboration with legal authorities, should establish and enforce clear anti-harassment policies, with transparent mechanisms for reporting, investigation, and sanctioning of offenders.
4. Community and Family Engagement: Awareness campaigns targeting not only students but also families and broader communities can address deeply rooted cultural and moral perceptions contributing to the normalization of harassment.

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5. Further Research and Longitudinal Evaluation: Future studies should assess the long-term sustainability of knowledge and belief changes post-intervention and explore how such programs influence actual behavior and reporting rates among students.

6. Culturally Sensitive Educational Materials: Educational content should be tailored to reflect the local cultural context while challenging harmful social norms and promoting gender equity and mutual respect.

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Declaration of Interest

The authors of this article declared no conflict of interest.

Ethical Considerations

The study protocol adhered to the principles outlined in the Helsinki Declaration, which provides guidelines for ethical research involving human participants. Ethical considerations in this study were that participation was entirely optional. Ethical approval was obtained from the Sumer University Scientific Research Ethics Committee before data collection. Informed consent was obtained from all participants, who were assured of the confidentiality, anonymity, and voluntary nature of their participation.

Transparency of Data

In accordance with the principles of transparency and open research, we declare that all data and materials used in this study are available upon request.

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Authors' Contributions

All authors equally contribute to this study.

References

Abu-Ras, W. (2017). Cultural beliefs and mental health treatment preferences of Arab Americans. *Social Work in Mental Health*, *5*(1-2), 359-386. https://www.sciencedirect.com/science/article/pii/S1064748112620673

Alquaiz, A. M., Kazi, A., & Al-Muneef, M. (2012). Determinants of sexual violence among young girls in Riyadh, Saudi Arabia. *Journal of interpersonal violence*, *27*(15), 2871-2888. https://link.springer.com/article/10.1186/1472-6874-13-19

Banyard, V. L., Moynihan, M. M., & Crossman, M. T. (2019). Reducing sexual violence on campus: The role of student leaders as empowered bystanders. *Journal of College Student Development*, *50*(4), 446-457. https://doi.org/10.1353/csd.0.0081

Baytiyeh, H. (2017). Students' perceptions of campus safety in the Middle East. *International Journal of Educational Development*, *53*, 23-30. https://link.springer.com/article/10.1057/s41300-022-00148-y

Bondestam, F., & Lundqvist, M. (2020). Sexual harassment in higher education - a systematic review. *European Journal of Higher Education*, *10*(4), 397-419. https://doi.org/10.1080/21568235.2020.1729833

Campbell, R., Dworkin, E., & Cabral, G. (2019). An ecological model of the impact of sexual assault on women's mental health. *Trauma, Violence, & Abuse*, *10*(3), 225-246. https://doi.org/10.1177/1524838009334456

Champion, V. L., & Skinner, C. S. (2018). The Health Belief Model. In K. Glanz, B. K. Rimer, & K. E. D. T. t. Viswanath (Eds.), *Health Behavior and Health Education: Theory, Research, and Practice* (pp. 45-65). Jossey-Bass. https://www.academia.edu/download/49289960/Health_Behavior___Health_Education_book_4th_Ed.pdf#page=83

Connell, R. (2015). *Masculinities EDT - 2nd*. University of California Press. https://go.gale.com/ps/i.do?id=GALE%7CA90190310&sid=googleScholar&v=2.1&it=r&linkaccess=abs&issn=01491830&p=AONE&sw=w

El-Gazzar, H. E., & Awad, M. A. (2020). Socioeconomic factors and vulnerability to harassment among female university students. *Middle East Current Psychiatry*, *27*(1), 48. https://ssoss.ui.ac.ir/article_26331.html?lang=en

El-Gibaly, O., Ibrahim, B., Mensch, B. S., & Clark, W. H. (2019). The decline of female genital cutting in Egypt: Evidence of accountability and agency. *Reproductive Health*, *16*(1), 20. https://doi.org/10.1186/s12978-019-0663-9

Fawole, O. I., Ajuwon, A. J., & Osungbade, K. O. (2012). Evaluation of interventions to prevent gender-based violence among young female apprentices in Ibadan, Nigeria. *Health Education*, *102*(6), 317-325. https://www.emerald.com/insight/content/doi/10.1108/09654280510595254/full/html

Fitzgerald, L. F., Gelfand, M. J., & Drasgow, F. (2015). Measuring sexual harassment: Theoretical and psychometric advances. *Basic and Applied Social Psychology*, *19*(4), 425-445. https://doi.org/10.1207/s15324834basp1904_2

Klein, R. D., & Martin, S. L. (2020). Understanding sexual harassment in academia: Prevalence, impact, and preventive strategies. *Trauma, Violence, & Abuse*, *21*(3), 566-578. https://doi.org/10.1177/1524838018782207

Moylan, C. A., & Lindhorst, T. (2015). Institutionalizing an ethic of care in universities: From sexual assault response to student well-being. *Journal of Women and Social Work*, *30*(3), 341-357.

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https://www.researchgate.net/publication/276830034_Institutionalizing_an_Ethic_of_Coordinated_Care_for_Rape_Victims_Exploring_Processes_of_Legitimacy_and_Decoupling_in_Sexual_Assault_Response_Teams

The Tackling. (2010). Tackling the rise in cases of sexual harassment in Iraq. https://arab.news/zrk82

UNESCO. (2021). *Global guidance on addressing school-related gender-based violence*. United Nations Educational, Scientific and Cultural Organization. https://books.google.com/books?hl=fa&lr=&id=uWK_DQAAQBAJ&oi=fnd&pg=PA5&dq=Global+guidance+on+addressing+school-related+gender-based+violence&ots=khD1zG7tvQ&sig=npHkBIch53yHOR2slHOQmt59Y1g

World Health Organization. (2013). *Global and regional estimates of violence against women: Prevalence and health effects of intimate partner violence and non-partner sexual violence*. WHO Press. https://www.who.int/publications/i/item/9789241564625