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Prevalence of Healthcare Professionals' Exposure to Workplace Sexual Harassment and Their Related Opinions

Azza Mohamed Ezzat [1*], Dr. Amany Sobhy Sorour [2], Dr. Reda El Sayed El Badawy [3]

1-B.Sc. Nursing, Zagazig University azzaelnabarawy@gmail.com

2-Professor of Community Health Nursing Faculty of Nursing, Zagazig University

3-Assistant professor of Community Health Nursing Faculty of Nursing, Zagazig University

Abstract

Background: Workplace sexual harassment is a persistent occupational hazard in healthcare settings, where hierarchical structures and high-stress environments may increase vulnerability to misconduct. Despite growing awareness, its true prevalence among healthcare professionals remains underreported.

Aim: To assess the prevalence of exposure to workplace sexual harassment and explore healthcare professionals' opinions regarding its prevalence.

Methods: A descriptive cross-sectional study was conducted at Zagazig University Hospitals, Egypt. A stratified sample of 360 healthcare professionals was selected, and 317 completed the study (response rate: 88.1%). Data were collected using standardized and validated self-administered questionnaires assessing exposure to sexual harassment during the last year and last six months, as well as participants' perceptions of its prevalence. Statistical analyses included descriptive statistics, chi-square tests, Spearman's correlation, multiple logistic regression, and multiple linear regression.

Results: Overall, 18.9% of participants reported exposure to workplace sexual harassment during the last year. During the last six months, 14.5% experienced high levels of sexual harassment, predominantly non-verbal (21.1%), followed by verbal (14.2%) and physical forms (8.5%). Nurses reported the highest exposure rates compared to physicians and pharmacists ($p<0.05$). Female gender (AOR=10.33), smoking (AOR=7.42), having chronic diseases (AOR=3.34), and working as a nurse or pharmacist were significant predictors of exposure. A moderate positive correlation was found between exposure scores and perceptions of prevalence ($r=0.527$, $p<0.01$). Only 18.3% perceived workplace sexual harassment as highly prevalent.

Conclusion: Workplace sexual harassment remains a considerable problem among healthcare professionals, particularly among female staff and nurses. Targeted gender-sensitive policies, structured reporting systems, and mental health support programs are essential to reduce exposure and mitigate its consequences.

Keywords: Workplace sexual harassment; Healthcare professionals; Prevalence; Occupational health; Workplace violence; Nurses.

INTRODUCTION

Despite increasing awareness and legal frameworks designed to combat such behavior, many workplaces continue to grapple with the pervasive effects of harassment. This ongoing challenge underscores the need for a comprehensive examination of how harassment manifests in modern work environments, its impacts on employees and organizational performance, and effective strategies for prevention and intervention ***(Acquadro Maran et al., 2022)***.

Harassment in healthcare settings presents a unique and pressing challenge within the broader context of workplace harassment. This issue encompasses a range of behaviors, from verbal abuse and bullying to more insidious forms of discrimination, all of which can significantly impact the well-being of healthcare professionals and the quality of patient care. All categories of healthcare workers often operate under high-stress conditions that can exacerbate the risks and effects of harassment. Despite stringent regulations and ethical standards, incidents

of harassment continue to be reported, highlighting an urgent need for focused research in this domain ***(Fenwick et al., 2022)***. Additionally, the hierarchical structure of healthcare settings can lead to power imbalances, which may compromise the reporting of harassment ***(Xiao et al., 2024)***.

Sexual workplace harassment is a serious and pervasive issue that undermines the safety and well-being of employees in professional settings. It encompasses a range of behaviors that involve unwelcome sexual advances, requests for sexual favors, or other verbal or physical conduct of a sexual nature. It creates a hostile work environment and can have profound effects on individuals and organizations ***(Cedeno and Bohlen, 2024)***. Sexual harassment includes unwelcome sexual advances, inappropriate touching, or suggestive comments. It could have a verbal form, such as unwelcome sexual comments, jokes, or conversations that are demeaning or inappropriate ***(Amoadu et al., 2024)***, a physical form, such as unwelcome physical contact or gestures of a sexual nature ***(Reyes Rocha and Sexsmith, 2024)***, or a non-verbal form such as gestures, body language, or visual displays of a sexual nature ***(Kc et al., 2024)***.

Sexual harassment in healthcare settings is a persistent issue. Surveys reveal that a considerable number of healthcare workers, particularly women, face inappropriate comments, advances, or other forms of sexual harassment ***(Donald and Lindsay, 2023)***. Several factors contribute to the occurrence of sexual workplace harassment. Hierarchical structures can lead to power imbalances where individuals in positions of authority may exploit their power to harass subordinates. This dynamic can make it difficult for victims to report or resist harassment. A culture that tolerates or trivializes inappropriate behavior can enable sexual harassment. If leadership does not actively promote respect and address misconduct, employees may feel that such behavior is acceptable or go unchecked ***(Wang, 2022)***. Furthermore, inadequate training and education on what constitutes sexual harassment can result in misunderstandings and unrecognized inappropriate behavior ***(Pilgaard et al., 2022)***.

The effects of sexual workplace harassment are wide-ranging and can significantly impact individuals and organizations. Employees who face sexual harassment may experience difficulties concentrating on their work, resulting in reduced productivity and job performance. Victims may avoid career development opportunities or face barriers to advancement ***(Jonsdottir et al., 2022)***.

Organizations that fail to address sexual harassment may face legal actions, including lawsuits and settlements, which can result in significant financial costs. Sexual harassment scandals can damage an organization's reputation, affecting its ability to attract and retain talent and potentially harming relationships with clients and stakeholders. A workplace that tolerates or ignores sexual harassment fosters a toxic culture characterized by fear, hostility, and low morale. This environment can hinder collaboration and overall team effectiveness ***(Nielsen et al., 2024)***. To effectively tackle sexual workplace harassment, organizations should implement a comprehensive approach: establish and clearly define policies regarding sexual harassment, outlining what constitutes unacceptable behavior and the procedures for reporting and addressing complaints; ensure that policies are communicated to all employees and included in employee handbooks; and provide mandatory training sessions that educate employees about sexual harassment, its impact, and how to report incidents. Training should be updated regularly to reflect new legal developments and best practices ***(Jonsdottir et al., 2022)***.

Identifying gaps in current practices and highlighting successful strategies can contribute to creating a safer and more supportive work environment. Understanding harassment's impact and prevalence can also foster a culture of openness and accountability. It can encourage healthcare organizations to address not only the symptoms but also the root causes of harassment, leading to lasting improvements in workplace culture ***(Cedeno and Bohlen, 2024)***.

Significance of Study

Sexual harassment in healthcare settings poses significant risks to the safety, well-being, and professional performance of providers. Despite increasing awareness, the true prevalence of such experiences among healthcare workers remains underreported and understudied. This study seeks to quantify the extent of exposure to sexual harassment among healthcare providers. Understanding the prevalence is critical to shaping policies that

foster safer work environments. Additionally, exploring providers' perceptions about how widespread harassment is can highlight gaps between reality and perception. These insights can inform training, reporting mechanisms, and cultural reforms within institutions. The study can contribute to a deeper understanding of the problem and support the development of targeted interventions and policy changes.

AIM OF THE STUDY

This study's aim is to assess the prevalence of exposure to workplace sexual harassment and explore healthcare professionals' opinions about its prevalence.

SUBJECTS AND METHODS

Study design and settings: This descriptive cross-sectional study was carried out at Zagazig University Hospitals. It included four hospitals, namely Surgery, Internal Medicine, Accidents, and Labor Hospitals. All the departments and units of the four hospitals were included in the study.

Subjects and sample: The healthcare professionals working in Zagazig University Hospitals consisted of 350 physicians, 3500 nurses, and 1000 pharmacists. Those working in the setting for at least one year were eligible for inclusion in the study sample. The required sample size was calculated to estimate an expected prevalence of exposure to workplace harassment of 41.7% or more ***(Messiaen et al., 2021)***, with a 5% absolute precision and a 95% level of confidence. The sample size was calculated using Open-Epi software package for the estimation of a single proportion, taking into account an expected non-response rate of about 10%. Accordingly, the required sample size was 360 participants. The sample was equally divided among the three categories of healthcare professionals in the settings using a stratified fixed approach with 111 physicians, 121 nurses, and 85 pharmacists.

Data collection tool: A self-administered questionnaire form was used to collect the data necessary to achieve the study objectives. It had a section for respondents' demographics, health, and job characteristics. The sexual harassment section of the "Prevalence of exposure to workplace harassment" tool developed by ***Myeongjun et al. (2016)*** was adopted for the study. It measures exposure to harassment with one question on a 3-point Likert scale for the frequency of exposure, in addition to 3 sub-items asking about the perpetrator.

A second tool was used to measure exposure to different types of sexual harassment during the last six months. It has 13 items: six for verbal harassment such as "*embarrassing remarks about appearance*," "*inappropriate invitations*," etc.; five for non-verbal harassment such as "*inappropriate staring*," "*inappropriate gestures and movements*," etc.; and two items for physical harassment such as "*attempting unwanted physical touch," "attempted sexual assault*." The responses are on a 3-point Likert-type scale: "*Never happened/ happened once/ happened more than once*." The items were scored from 0 to 2 for the responses never, once, and more than once. The total score of the scale ranges between 0 (never) and 26 (highest exposure). This was converted into a percentage score. The respondent with a score of 60% or higher (16-26) was considered exposed, and with a score <60% (0-15) was considered not exposed. A section asking about the details of the harassment incident was adopted from related literature ***(Anjum et al., 2019; Szafran et al., 2021)***. It included 4 questions about the place, timing, perpetrator, and the complications or consequences.

The last tool was used to elicit respondents' opinions about the rate of exposure to different types of workplace sexual harassment. This scale was adopted from ***Formation-sans-harcelement (2017)***. It has three questions asking about the most common verbal, non-verbal, and sexual forms of workplace harassment to which healthcare workers are exposed. The responses are on a 5-point Likert-type scale: "very low, low, medium, high, very high." The responses were scored from 1 to 5, respectively. The total score for the scale ranges between 3 (very low) and 15 (very high). This was converted into a percentage score. The respondent with a score of 60% or higher (9-15) was considered to have an opinion of "high" exposures, and with a score <60% (0-14) was considered to have an opinion of "low" exposures.

The scales used in the data collection tools are standardized with documented validation. Additionally, once prepared, the form was presented to a panel of three nursing professors in Nursing. The reliability of the scales was evaluated by the internal consistency method. They showed good levels of reliability with Cronbach's Alpha coefficients of 0.925 and 0.851 for the sexual harassment and opinion scales. It was pilot-tested and finalized accordingly.

Fieldwork: Once permission was granted, the researchers started to visit each of the four hospitals to meet with the nursing directors to arrange for the fieldwork. Through collaboration with the medical and nursing directors of each site, the researchers met individually with the healthcare professionals, explaining the aim and process of the study, and invited them to participate. The fieldwork lasted from December 2022 to May 2023.

Administrative design ethical considerations: A formal permission was obtained through official channels. Ethical approval was obtained from the Scientific and Ethics Committee of the Faculty of Nursing, Zagazig University (ethical code: M.D ZU.NURS/169/15/3/2022). All ethical concerns were taken into consideration during all phases of the study.

Statistical analysis: Data entry and statistical analysis were done using SPSS 22.0 statistical software package. Data were presented using descriptive statistics as frequencies and percentages for the categorical variables, and means, standard deviations, and medians for the numeric ones. Cronbach's alpha coefficient was calculated to assess the reliability of the scales through their internal consistency. Categorical variables were compared using chi-square tests (X^2). Spearman's rank correlation was used for the assessment of the inter-relationships between quantitative and ranked variables. Multiple linear regression analysis was used to identify the independent predictors of the scores of opinions about the prevalence of workplace harassment. Multiple logistic regression analysis was used to identify the predictors of exposure to workplace sexual harassment. Statistical significance was considered at p-value <0.05.

RESULTS

The number of healthcare providers who had complete responses was 317, a response rate of 88.1%. They had a median age of 35.0 years as described in Table 1. Slightly more than three-fifths (61.5%) were females with rural residence (60.6%), and 71.9% were married. Slightly more than one-half had high qualifications (57.1%) and were heads/specialists (65.6%). Around two-thirds (62.5%) reported working night shifts. Very few had chronic diseases (4.4%) or disability (0.3%), and 87.4% never smoked.

As presented in Table 2, 16.4% of the healthcare providers reported exposure to workplace sexual harassment once or more per month, and 2.5% once or more per week during the last year. This was mostly by peers (50.0%) and least by supervisors (10.0%). Overall, 18.9% were exposed to sexual harassment during the last year.

As regards exposure to sexual harassment during the last six months, Table 3 indicates that such exposure was mostly non-verbal (21.1%), and only 8.5% reported physical type exposure. Overall, 14,5% had high exposure to sexual harassment during last six months, mostly in the wards (43.5%), during afternoon (58.7%) or night (43.5%) shifts, by peers (67.4%), leading to complications (95.2%) mostly psychological (95.2%), and 35.0% of these needed treatment. Concerning the opinion about the prevalence of workplace sexual harassment, approximately one-fifth (18.3%) of the healthcare providers considered it as high.

The comparison of exposures to workplace sexual harassment among the healthcare providers categories during the last year (Table 4) revealed significant differences in the exposure to sexual harassment ($p<0.001$). Such exposures were highest among nurses and lowest among physicians. As for the comparison of exposures during the last six months, the table points to statistically significant differences in the exposure to verbal ($p=0.007$), non-verbal ($p=0.001$), and total ($p=0.02$) sexual harassment. In all these exposures, the percentages were highest among nurses and lowest among physicians. A statistically significant difference was also revealed

in the opinions about the prevalence of workplace harassment (p=0.04), where the nurses' opinion was the highest, while that of the physicians was the lowest.

As presented in Table 5, the scores of exposure to sexual harassment had a statistically significant moderate positive correlation with the scores of the opinions about prevalence (r=0.527). No statistically significant correlations were demonstrated between these scores and any of the healthcare providers' demographic characteristics.

In the logistic regression analysis (Table 6), female gender carried the highest risk of exposure to workplace harassment with an Adjusted Odds Ratio (AOR) of 10.33, followed by smoking (AOR 7.42). Moreover, being a nurse or a pharmacist increased the risk by around threefold compared with being a physician. Having chronic diseases also increased the risk of exposure.

As for the healthcare providers' opinions regarding the prevalence of workplace harassment, Table 7 indicates that the score of exposure to sexual harassment was the main statistically significant independent positive predictor of the opinion score. Moreover, a rural residence was also a significant positive predictor of this score. The model explains only 38% of the variation in this score. Meanwhile, neither the job category nor the gender had a statistically significant effect.

DISCUSSION

Workplace harassment in all its verbal, physical, and sexual forms is a significant problem across various organizations with negative impacts on the employees and work settings ***(Liang, 2024; Tate and Chalhoub 2024)***. Although mostly non-physical, it has substantial emotional and work-related effects ***(Tyau et al., 2024)***. The aim of this study was to measure the prevalence of exposure to workplace sexual harassment and explore healthcare professionals' opinions about its prevalence. The results showed that workplace sexual harassment was prevalent in the study settings, particularly the non-verbal type, during the last six months and the last year, and was more prevalent among nurses compared to the other two categories.

The current study measured the prevalence of exposure to sexual harassment. During the last six months, slightly more than one-fifth reported exposure to non-verbal and less than one-tenth to physical sexual harassment. This may be considered a high rate of exposure given its tremendous psychological and emotional impacts on the victims. This rate is higher than the rate reported in a study in university, private, and ministry of health hospitals in Egypt, where the exposure to sexual harassment was reported by only 6.8% of the participants ***(Allam et al., 2025)***. An even lower rate was reported in a study in Nigeria, where only 2.0% of the healthcare providers reported exposure to sexual harassment ***(Obionwu and Sibeudu, 2025)***. The discrepancies could be attributed to differences in the settings, as well as the tools used in the collection of data, and the perception and definition of sexual harassment.

The low prevalence rates of exposure to workplace sexual harassment, as the current and previous studies' results indicate, could be the result of under-reporting by the healthcare providers. Therefore, the true prevalence rates could be higher. Similar expectations of under-reporting of workplace harassment were reported in studies in Egypt ***(Shalaby, 2023)***, China ***(Cai et al., 2024)***, and Jordan ***(Alnaeem et al., 2025)***. In this respect, a recent systematic review of 42 studies on workplace violence in healthcare settings found an extremely wide range of rates of exposure to sexual harassment, ranging between 1.9 and 76.5% ***(Alhomoud, 2025)***. This reflects a low reliability of the reported rates, which could be attributed to under-reporting.

The exposure to sexual harassment during the last six months occurred mostly in the wards, in the afternoon or night shifts, and by peers. Therefore, the locations and timing of harassment incidents suggest that environmental and temporal factors should be considered when developing prevention strategies. In agreement with this, a study of workplace violence among healthcare workers in Italy demonstrated significantly higher rates of exposure in the wards, and the rates correlated with the number of night shifts ***(Giusti et al., 2024)***. Similar

findings were also reported in a study of workplace violence among healthcare workers in the Caribbean ***(Hadmon et al., 2024)***.

The current study has also revealed that the perpetrators of sexual harassment were predominantly the peers and, to a lesser extent, the patients or their families. The finding indicates potential gaps in boundaries within healthcare settings, suggesting the need for stricter regulations on professional interactions to protect vulnerable groups. In agreement with this, a study in Brazil demonstrated that the main perpetrators of sexual harassment were the work colleagues, followed by the patients and their families ***(Amaral et al., 2025)***. Similarly, a study of workplace violence in Sierra Leone found that co-workers were the most commonly mentioned perpetrators ***(Jalloh et al., 2025)***.

Although the rates of exposure to sexual harassment seem not to be very high, they were associated with significant consequences. Thus, almost all those exposed confirmed they suffered related complications, which were mostly psychological. Moreover, more than one-third of them reported they needed treatment for such complications. This reinforces the notion that even infrequent incidents can lead to long-lasting emotional distress, particularly when left unaddressed by solid institutional policies. Hence, the findings emphasize the need for mental health support as part of institutional policies for workplace violence. In line with this, a study of the effects of workplace violence on nurses' burnout and the quality of nursing care revealed high burdens on the nurses with negative impacts on their provided care as well as on their mental health and wellbeing ***(Shafran Tikva et al., 2024)***.

Moreover, the significant psychological impacts of exposure to workplace sexual harassment revealed in the present study, with complications that might have needed treatment, could negatively affect the HCPs, making them feel less empowered or more isolated due to compounded experiences. This necessitates a more holistic approach to workplace harassment training, focusing on identifying and mitigating all forms. In line with this, a study of workplace violence in China highlighted the importance of considering all individual, interpersonal, and organizational factors that may contribute to psychological hazards by creating a safer work environment for healthcare workers ***(Dong et al., 2025)***.

The comparison of the rates of exposure to sexual workplace harassment during the last six months and the last year by job categories revealed that the nurses were the most exposed, while the physicians were the least exposed. The finding was confirmed in the logistic regression analysis, where having a nurse job increased the risk of exposure to workplace harassment by more than threefold, compared to physicians. The finding might be attributed to occupational hierarchies that put them at greater risk, in addition to their roles requiring more direct and close patient interactions. This disparity between the nurses' and physicians' exposure indicates the need for role-specific training that helps nurses and their supervisors manage harassment effectively to mitigate any potential stressors linked to professional hierarchies. The finding is in agreement with ***Bunce et al. (2024),*** who clarified that the job roles of the nurses might put them at a higher risk of exposure to workplace violence and harassment and attributed it to the authority dynamics in the work settings. Additionally, the results of a study of workplace violence in China indicated that having a physician job was the least important risk factor for exposure ***(Wu et al., 2025)***.

According to the current study, pharmacists came second to nurses in being most exposed to workplace sexual harassment. This might be due to their frequent interactions and arguing with the patients while dispensing medications. In congruence with this, a study of the organizational climate and job stress among pharmacists showed that pharmacists also face harassment, but differently from nurses' exposure, with lower rates of direct violence compared to nurses. Therefore, while both categories are exposed to workplace harassment, the frequency and nature of harassment vary according to job roles and responsibilities, thus mandating different preventive strategies ***(Lan et al., 2020)***. On the same line, a recent systematic review of the risk factors of workplace violence underscored the role of situational and role factors ***(Kobata et al., 2025)***.

The present study has also demonstrated that female gender was a significant independent predictor of last year's exposure to workplace sexual harassment. The logistic regression analysis showed that female gender increased the risk of such exposure by more than tenfold. The finding regarding the female gender is in congruence with the results of a recent systematic review and meta-analysis of violence in healthcare settings, where females were found to be at a higher risk of exposure ***(Ajuwa et al., 2024)***.

Other HCPs' characteristics significantly associated with their exposure to workplace sexual harassment were being a smoker and having chronic diseases. Thus, the multivariate logistic regression analysis showed that smoking increased the risk of exposure more than sevenfold, while having a chronic disease increased it by more than threefold. A similar association between being a smoker and having a higher risk of exposure to workplace violence was reported in a study in Brazil ***(de Lucca, 2019)***. On the same line, a study of workplace violence in a hospital in China showed that those suffering from chronic diseases and those who were smokers were at a higher risk of being exposed to such hazards ***(Yan et al., 2023)***.

Concerning HCPs' opinions about the prevalence of workplace harassment in the setting, only less than one-fifth of them viewed it as high. This percentage is very close to the percentage of HCPs who were actually exposed to such harassment. Moreover, the opinions about the prevalence of workplace harassment/bullying were significantly higher among those who have been exposed. Thus, only those exposed would consider the prevalence high based on their personal experience. Those not exposed may not know about the incidents, which often go unreported. For this reason, a study in Turkey claimed that nurses migrate from the profession because they perceive workplace violence as highly prevalent ***(Yürümezoğlu and Çamveren, 2025)***.

As for the characteristics influencing HCPs' opinions about the prevalence of workplace harassment, a moderate positive correlation was revealed between this score and the score of exposure to sexual harassment. Further, the multivariate analysis confirmed that the score of exposure to sexual harassment was the main statistically significant independent positive predictor of this score. This is quite plausible since having such experience with workplace harassment would intensify and strengthen the thoughts that it is highly prevalent. A similar association between exposure to workplace violence and healthcare providers' awareness of its prevalence was demonstrated in studies of workplace violence in Nigeria ***(Elom et al., 2024)*** and Ghana ***(Donkor et al., 2024)***.

The rural residence was also a significant positive predictor of the score of the opinion about prevalence. This might be explained by the fact that the rural healthcare workers may experience different workplace dynamics, potentially due to community-based cultural influences that could influence their perceptions of harassment. In congruence with this, ***Atta et al. (2025)*** in a study of nurses' exposure to workplace violence in Egypt highlighted that the nurses working in rural areas are more vulnerable to exposure to sexual harassment. However, ***Lim et al. (2022)*** claimed that both urban and rural settings may be exposed to harassment at work, but due to different underlying reasons.

CONCLUSION AND RECOMMENDATIONS

In conclusion, a significant proportion of the HCPs in the study settings are exposed to workplace sexual harassment and view its prevalence as slightly high. Female gender and nursing/pharmacist jobs pose a higher risk of exposure. The study recommends strict implementation of gender-sensitive regulations, with intensive training and organizational support. Mental health programs should be developed to help cope with sexual harassment and its consequences. Monitoring and evaluation of anti-harassment efforts is also essential, with special attention to female and rural-based HCPs. Further research studying the effectiveness of such interventions is proposed.

REFERENCES

1. ***Acquadro Maran D., Varetto A., and Civilotti C. (2022)***: Sexual Harassment in the Workplace: Consequences and Perceived Self-Efficacy in Women and Men Witnesses and Non-Witnesses. Behav Sci (Basel). 2022 Sep 8;12(9):326. doi: 10.3390/bs12090326. PMID: 36135130; PMCID: PMC9495880.
2. ***Ajuwa M.P., Veyrier C.A., Cousin Cabrolier L., Chassany O., Marcellin F., Yaya I., and Duracinsky M. (2024)***: Workplace violence against female healthcare workers: a systematic review and meta-analysis. BMJ Open.;14(8):e079396. doi: 10.1136/bmjopen-2023-079396. PMID: 39209501; PMCID: PMC11369783.
3. ***Alhomoud F. (2025)***: 'That's Enough'-Workplace Violence Against Physicians, Pharmacists, and Nurses in Saudi Arabia: A Systematic Review of Prevalence, Causes, and Consequences. Risk Management and Healthcare Policy; 373-408.
4. ***Allam R.M., Hassan F.M., Abdalgeleel S.A., Khalil M.I.M., Khalaf O.O., Elsalam R.H.A., and El Desouky E.D. (2025)***: Prevalence of workplace violence and associated factors among different healthcare sectors in Egypt: a cross-sectional survey. Journal of Public Health; 1-14.
5. ***Alnaeem M.M., Hasan Suleiman K., Alzoubi M.M., Sumaqa Y.A., Al-Mugheed K., Saeed Alabdullah A.A., and Farghaly Abdelaliem S.M. (2025)***: Prevalence, consequences, and contributing factors beyond verbal and physical workplace violence against nurses in peripheral hospitals. Front Public Health.;12:1418813. doi: 10.3389/fpubh.2024.1418813. PMID: 39839397; PMCID: PMC11746907.
6. ***Amaral E.D.S., Arruda G., Perondi A.R., Cavalheiri J.C., Vieira A.P., and Follador F.A.C. (2025)***: Violence at work experienced by nursing professionals working in hospital units: an exploratory and correlational study. Revista Latino-Americana de Enfermagem; 33: e4527.
7. ***Amoadu M., Ansah E.W., and Sarfo J.O. (2024)***: Preventing workplace mistreatment and improving workers' mental health: a scoping review of the impact of psychosocial safety climate. BMC Psychol ; 12 : 195. https://doi.org/10.1186/s40359-024-01675-z
8. ***Anjum A., Muazzam A., Manzoor F., Visvizi A., Pollock G., and Nawaz R. (2019)***: Measuring the Scale and Scope of Workplace Bullying: An Alternative Workplace Bullying Scale. Sustainability; 11, 4634 9 of 11; doi:10.3390/su11174634 www.mdpi.com/journal/sustainability
9. ***Atta M.H.R., Elsayed S.M., El-Gazar H.E., Abdelhafez N.G.E., and Zoromba M.A. (2025)***: Role of violence exposure on altruistic behavior and grit among emergency nurses in rural hospitals. International Nursing Review; 72(1): e13086.
10. ***Bunce A., Hashemi L., and Clark C. (2024)***: Prevalence and nature of workplace bullying and harassment and associations with mental health conditions in England: a cross-sectional probability sample survey. BMC Public Health; 24: 1147. https://doi.org/10.1186/s12889-024-18614-7
11. ***Cai J., Ying Y., Wang H., Yu W., Wu S., Zhang Y., and Wang Y. (2024)***: Exploring barriers and facilitators in nurses' reporting of patient and visitor violence: a cross-sectional study in China. BMJ Open.;14(12):e091232. doi: 10.1136/bmjopen-2024-091232. PMID: 39653575; PMCID: PMC11628979.
12. ***Cedeno R., and Bohlen J. (2024)***: Sexual Harassment and Prevention Training. [Updated 2024 Mar 29]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2024 Jan-. Available from: https://www.ncbi.nlm.nih. gov/books/NBK587339/
13. ***de Lucca S.R. (2019)***: Prevalence of psychological violence in the employed Brazilian population and its occurrence in the workplace: National Survey of Health.
14. ***Donald N., and Lindsay T. (2023)***: Incidence and trends in workplace violence within emergency departments in the United Kingdom 2017-2022: an observational time series analysis. Front Public Health.;11:1211471. doi: 10.3389/fpubh.2023.1211471. PMID: 37448656; PMCID: PMC10336324.
15. ***Dong S., Shen X., Zhao T., Zeng R., and Chen M. (2025)***: Workplace violence, psychopathological symptoms, and deviant workplace behavior among nursing interns in China: a network analysis. BMC Nurs.;24(1):129. doi: 10.1186/s12912-025-02771-0. PMID: 39905417; PMCID: PMC11796222.

16. ***Donkor A., Owusu Nti K., Appiah-Frempong A., Gyekye R.A., Adjei A.N.A., Ohemeng E., and Wiafe Y.A. (2025)***: Prevalence and factors associated with workplace violence against diagnostic radiographers in Ghana: A nationwide cross-sectional study. Radiography (Lond).;31(1):166-173. doi: 10.1016/j.radi.2024.11.008. Epub 2024 Nov 24. PMID: 39586155.
17. ***Elom P., Agu A., Unah A., Azuogu B., Ituma B., Okah O., Okocha Y., Ugwunweze J., Ossai E., and Igwe D. (2024)***: Prevalence and factors associated with workplace violence in a tertiary healthcare facility in Nigeria. Niger Med J.;65(2):173-184. doi: 10.60787/nmj-v65i2-336. PMID: 39005550; PMCID: PMC11240196.
18. ***Fenwick K.M., Dyer K.E., Klap R., Oishi K., Moreau J.L., Yano E.M., Bean-Mayberry B., Sadler A.G., and Hamilton A.B. (2022)***: Expert Recommendations for Designing Reporting Systems to Address Patient-Perpetrated Sexual Harassment in Healthcare Settings. J Gen Intern Med.;37(14):3723-3730. doi: 10.1007/s11606-022-07467-8. Epub 2022 Mar 9. PMID: 35266124; PMCID: PMC9585114.
19. ***Formation-sans-harcelement (2017)***: Brochure « Non au harcèlement sexuel dans les lieux de formation » in French .https://www.formation-sans-harcelement.ch/wp-content/uploads/2017/10/Brochure-en-Francais.pdf
20. ***Giusti E.M., Veronesi G., Forest H., Ghelli M., Persechino B., Borchini R., Magnavita N., and Ferrario M.M. (2024)***: Role of turnover, downsizing, overtime and night shifts on workplace violence against healthcare workers: a seven-year ecological study. BMC Public Health.;24(1):3371. doi: 10.1186/s12889-024-20898-8. PMID: 39627732; PMCID: PMC11616121.
21. ***Hadmon R., Pierre D.M., Banga A., Clerville J.W., Mautong H., Akinsanya P., Gupta R.D., Soliman S., Hunjah T.M., Hunjah B.A., Hamza H., Qasba R.K., Nawaz F.A., Surani S., and Kashyap R. (2024)***: Violence study of healthcare workers and systems in the Caribbean: ViSHWaS-Caribbean study. World J Methodol.;14(3):92932. doi: 10.5662/wjm.v14.i3.92932. PMID: 39310234; PMCID: PMC11230073.
22. ***Jalloh F., Bah A.T., Kanu A., Jalloh M.J., Agboola K., Faulkner M.M., and Jalloh M.B. (2025)***: Prevalence and determinants of academic bullying among junior doctors in Sierra Leone: cross-sectional study. JMIRx Med; 6(1): e68865.
23. ***Jonsdottir S.D., Hauksdottir A., Aspelund T., Jakobsdottir J., Runarsdottir H., Gudmundsdottir B., Tomasson G., Valdimarsdottir U.A., Halldorsdottir T., and Thordardottir E.B. (2022)***: Risk factors for workplace sexual harassment and violence among a national cohort of women in Iceland: a cross-sectional study. Lancet Public Health.;7(9):e763-e774. doi: 10.1016/S2468-2667(22)00201-8. PMID: 36057275; PMCID: PMC9449977.
24. ***Kc P., Madsen I.E.H., Rugulies R., Xu T., Westerlund H., Nyberg A., Kivimäki M., and Magnusson Hanson L.L. (2024)***: Exposure to workplace sexual harassment and risk of cardiometabolic disease: a prospective cohort study of 88 904 Swedish men and women. Eur J Prev Cardiol.:zwae178. doi: 10.1093/eurjpc/zwae178. Epub ahead of print. PMID: 38875457.
25. ***Kobata I., Fukuura Y., Kaba Y., and Shigematsu Y. (2025)***: Situational Factors Impacting Harmful Behavior Towards Others Related to Mental Health in the Community and Their Associations: A Scoping Review Based on Systematic Reviews. Healthcare (Basel).;13(2):152. doi: 10.3390/healthcare13020152. PMID: 39857179; PMCID: PMC11764632.
26. ***Lan, Y., Xia, Y., Li, S., Wu, W., Hui, J., & Deng, H. (2020).*** Thwarted enthusiasm: effects of workplace incivility on newcomer proactive behaviors. Chinese Management Studies, 14(4), 1035-1056.
27. ***Liang T. (2024)***: Sexual Harassment at Work: Scoping Review of Reviews. Psychol Res Behav Manag.;17:1635-1660. doi: 10.2147/PRBM.S455753. PMID: 38645480; PMCID: PMC11032108.
28. ***Lim M.C., Jeffree M.S., Saupin S.S., Giloi N., and Lukman K.A. (2022)***: Workplace violence in healthcare settings: The risk factors, implications and collaborative preventive measures. Ann Med Surg (Lond).;78:103727. doi: 10.1016/j.amsu.2022.103727. PMID: 35734684; PMCID: PMC9206999.
29. ***Lim M.C., Jeffree M.S., Saupin S.S., Giloi N., and Lukman K.A. (2022)***: Workplace violence in healthcare settings: The risk factors, implications and collaborative preventive measures. Ann Med Surg (Lond).;78:103727. doi: 10.1016/j.amsu.2022.103727. PMID: 35734684; PMCID: PMC9206999.

30. ***Messiaen M., Duba A., Boulangeat C., Boucekine M., Bourbon A., Viprey M., Auquier P., Lançon C., Boyer L., and Fond G. (2021)***: Repeated bullying at the workplace in medical students and young doctors: the MESSIAEN national study. Eur Arch Psychiatry Clin Neurosci.;271(6):1123-1131. doi: 10.1007/s00406-020-01144-9. Epub 2020 May 27. PMID: 32462290.
31. ***Myeongjun L., Hyunjung K., Donghee S., and Sangyun L. (2016)***: Annals of Occupational and Environmental Medicine; 28:45 DOI 10.1186/s40557-016-0133-0
32. ***Nielsen M.B.D., Skov S.S., Grundtvig G., Folker A.P., Rugulies R., Tybjerg Aldrich P., and Madsen I.E.H. (2024)***: Workplace sexual harassment: a qualitative study of the self-labelling process among employees in Denmark. International Journal of Qualitative Studies on Health and Well-Being, 19(1). https://doi.org/10.1080/17482631.2024.2324990
33. ***Obionwu O., and Sibeudu F.T. (2025)***: Assessing the Prevalence of Workplace Violence against Nurses Working in Public Health Facilities in Anambra State. African Journal of Health and Medical Sciences (AFJHMS); 10(1): 13-21.
34. ***Pilgaard F., Agardh A., Östergren P.O., and Priebe G. (2022)***: Association between Experiences of Different Types of Harassment or Derogatory Treatment and Sexual Harassment among Employees at a Large Swedish University. Int J Environ Res Public Health.;20(1):11. doi: 10.3390/ijerph20010011. PMID: 36612332; PMCID: PMC9819109.
35. ***Reyes Rocha F.A., and Sexsmith K. (2024)*** : Workplace Sexual Harassment in Waged Agricultural Employment: A Literature Review. Journal of Agromedicine; 29(3): 516–530. https://doi.org/10.1080/1059 924X.2024. 2338857
36. ***Shafran Tikva S., Gabay G., Shkoler O., and Kagan I. (2024)***: Association of quality of nursing care with violence load, burnout, and listening climate. Isr J Health Policy Res. 2024 Apr 24;13(1):22. doi: 10.1186/s13584-024-00601-3. Erratum in: Isr J Health Policy Res.;13(1):36. doi: 10.1186/s13584-024-00612-0. PMID: 38659017; PMCID: PMC11040785.
37. ***Shalaby Awad Mahmoud, N., Hassan Ahmed, A., & Hassan Shamekh Taman, A. (2023).*** Knowledge and practices of maternity nurses related to the potential impacts of climate change on women's health. Egyptian Journal of Health Care, 14(2), 960-975.
38. ***Szafran O., Woloschuk W., Torti J.M.I., and Palacios Mackay M.F. (2021)***: Intimidation, harassment, and discrimination during family medicine residency training: a mixed methods study. BMC Med Educ.;21(1):173. doi: 10.1186/s12909-021-02623-w. PMID: 33743683; PMCID: PMC7980613.
39. ***Tate C.W., and Chalhoub S. (2024)***: Managing uncivil behaviour in the workplace. Nurs Manag (Harrow).;31(5):35-42. doi: 10.7748/nm.2024. e2138. Epub 2024 Sep 12. PMID: 39263978.
40. ***Tyau N.D., Swedish K.A., and Perez H.R. (2024)***: Workplace Violence Against Primary Care Clinicians: A Narrative Review. J Gen Intern Med.;39(14):2806-2828. doi: 10.1007/s11606-024-08850-3. Epub 2024 Jul 8. PMID: 38977516; PMCID: PMC11534957.
41. ***Wang H. (2022)***: Legislative and judicial responses to workplace sexual harassment in mainland China: Progress and drawbacks. Front Public Health.;10:1000488. doi: 10.3389/fpubh.2022.1000488. PMID: 36225785; PMCID: PMC9548627.
42. ***Wu Y., Ahaus K., Shi J., Zhao D., and Buljac-Samardzic M. (2025)***: Perspectives of physicians on risk factors for patient aggression and violence against physicians in Chinese hospitals: a Q-methodology study. Hum Resour Health.;23(1):5. doi: 10.1186/s12960-025-00976-7. PMID: 39833833; PMCID: PMC11749401.
43. ***Xiao Y., Liu L., and Zhang Z. (2024)***: Safeguarding healthcare professionals from sexual harassment in the workplace: urgent need for effective training and education, Postgraduate Medical Journal; 100(Issue 1185): 516–518, https://doi.org/10.1093/postmj/qgae029
44. ***Yan S., Feng J., Gan Y., Wang R., Song X., Luo Z., Han X., and Lv C. (2023)***: Prevalence and predictors of workplace violence against emergency physicians in China: a cross-sectional study. Hum Resour Health.;21(1):8. doi: 10.1186/s12960-022-00784-3. PMID: 36755287; PMCID: PMC9907873.

45. ***Yürümezoğlu H.A., and Çamveren H. (2025)***: Why are Turkish nurses migrating? A mixed-methods study. International Nursing Review; 72(1): e13019.

Table 1: Demographic characteristics of healthcare providers in the study sample (n=317)

	Frequency	Percent
Age:		
<30	78	24.6
30-	153	48.3
40+	86	27.1
Range	23-55	
Mean±SD	35.0±6.3	
Median	35.0	
Gender:		
Male	122	38.5
Female	195	61.5
Marital status:		
Single	51	16.1
Married	228	71.9
Divorced/widow	38	12.0
Marital status:		
Unmarried	89	28.1
Married	228	71.9
Residence:		
Urban	125	39.4
Rural	192	60.6
Qualification:		
Basic	136	42.9
High	181	57.1
Job position:		
Staff	109	34.4
Head/consultant/manager	208	65.6
Experience years (current job):		
<5	300	94.6
5+	17	5.4
Work night shifts	198	62.5
Had sick leaves:	107	33.8
Related to work	3	2.8
Have:		
Chronic diseases	14	4.4

Disability	1	0.3
Never smoked	277	87.4

Table 2: Exposure to workplace sexual harassment during the last year among healthcare providers in the study sample (n=317)

	Frequency	Percent
Exposed to sexual harassment:		
Never	257	81.1
1+/month	52	16.4
1+/week	8	2.5
Perpetrator:		
Supervisor	6	10.0
Peer	30	50.0
Client	21	35.0
Total:		
Range	0-3	
Mean±SD	0.4±0.8	
Median	0.0	
Ever exposed	60	18.9

Table 3: Exposure to sexual harassment during the last six months among healthcare providers in the study sample (n=317)

	Frequency	Percent
Exposure to sexual harassment:		
Verbal:		
High (60%+)	45	14.2
Low (<60%)	272	85.8
Non-verbal:		
High (60%+)	67	21.1
Low (<60%)	250	78.9
Physical:		
High (60%+)	27	8.5
Low (<60%)	290	91.5
Total sexual harassment:		
High (60%+)	46	14.5
Low (<60%)	271	85.5
Site:[@]		
Department	*11*	*23.9*
Ward	*20*	*43.5*

Public areas	*24*	*52.2*
Time:[@]		
Morning	*8*	*17.4*
Afternoon	*27*	*58.7*
Night	*20*	*43.5*
Perpetrator:[@]		
Peer	*31*	*67.4*
Patient	*24*	*52.2*
Lead to complications:[@]		
No	*4*	*8.7*
Yes	*42*	*91.3*
Complications:		
Physical	*2*	*4.8*
Psychological	*40*	*95.2*
Needed treatment		
No	*26*	*65.0*
Yes	*14*	*35.0*
Opinion about the prevalence of workplace harassment:		
High (60%+)	58	18.3
Low (<60%)	259	81.7

(@) Not mutually exclusive

Table 4: Comparison of exposures to workplace sexual harassment and related opinions among healthcare providers categories

Exposure to sexual harassment	Job categories						X^2	p-value
	Physicians (n=111)		Nurses (n=121)		Pharmacists (n=85)			
	No.	%	No.	%	No.	%		
LAST YEAR								
No	105	94.6	83	68.6	69	81.2		
Yes	6	5.4	38	31.4	16	18.8	25.50	<0.001*
LAST SIX MONTHS								
Verbal:								
High (60%+)	7	6.3	25	20.7	13	15.3		
Low (<60%)	104	93.7	96	79.3	72	84.7	9.91	0.007*
Non-verbal:								
High (60%+)	12	10.8	37	30.6	18	21.2		
Low (<60%)	99	89.2	84	69.4	67	78.8	13.57	0.001*
Physical:								

High (60%+)	4	3.6	15	12.4	8	9.4		
Low (<60%)	107	96.4	106	87.6	77	90.6	5.86	0.053
Total:								
High (60%+)	8	7.2	23	19.0	15	17.6		
Low (<60%)	103	92.8	98	81.0	70	82.4	7.42	0.02*
Opinion about the prevalence of workplace harassment:								
High (60%+)	12	10.8	28	23.1	18	21.2		
Low (<60%)	99	89.2	93	76.9	67	78.8	6.53	0.04*

(*) Statistically significant at p<0.05

Table 5: Correlations between healthcare providers' scores of exposure and opinions about the prevalence of workplace sexual harassment and their characteristics

	Spearman's rank correlation coefficient	
	Sexual Harassment Score	Opinion about Prevalence
Opinion about prevalence score	.527**	
Demographic characteristics:		
Age	-.044	-.014
Qualification (physician)	-.087	.059
Experience (physician)	.010	.088
Qualification (nurse)	-.021	-.004
Experience (nurse)	.157	.153
Qualification (pharmacist)	-.201	.070
Experience (pharmacist)	-.112	-.164

(**) Statistically significant at p<0.01

Table 6: Multivariate logistic regression analysis for the exposure to workplace sexual harassment with adjusted Odds Ratios (AORs)

	Wald	Df	P	AOR	95.0% CI for OR	
					Lower	Upper
Age	0.07	1	0.794	0.99	0.94	1.05
Female gender	12.90	1	<0.001	10.33	2.89	36.93
Married	0.03	1	0.856	1.08	0.48	2.42
Rural residence	0.03	1	0.858	1.07	0.51	2.23
Have chronic diseases	8.71	1	0.003	3.34	1.50	7.44
Smoking	8.66	1	0.003	7.42	1.95	28.18
Job category (Ref.: physician)						
Nurse	5.40	1	0.020	3.15	1.20	8.29

Pharmacist	5.31	1	0.021	3.35	1.20	9.37
Work night shifts	0.80	1	0.371	1.42	0.66	3.03

Table 7: Best-fitting multiple linear regression model for the score of opinion regarding the prevalence of workplace sexual harassment

	Unstandardized Coefficients		Standardized Coefficients	t-test	p-value	95% Confidence Interval for B	
	B	Std. Error				Lower	Upper
Constant	26.60	2.55		10.435	<0.001	21.59	31.62
Rural residence	3.21	1.53	0.09	2.104	0.036	0.21	6.21
Score of exposure to sexual harassment	0.62	0.05	0.60	13.443	<0.001	0.53	0.71

r-square=0.38 Model ANOVA: F=96.60, p<0.001

Variables entered and excluded: age, gender, marital status, job category