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Non-partner sexual violence against women: a mixed-methods study protocol on prevalence, patterns, consequences, and coping strategies

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Abstract

Background Non-partner sexual violence (NPSV) against women is a serious public health concern with substantial implications for mental and sexual health. However, data on its prevalence, patterns—including victim–perpetrator relationship, event context, and nature of acts—and related outcomes remain limited. This study investigates the lifetime prevalence and patterns of NPSV among women in Iran, its psychosexual impacts, and victims' coping strategies.

Methods This study employs a sequential mixed-methods design, with primary emphasis on the quantitative phase. The initial phase involves a national cross-sectional survey of 1,500 Iranian women aged ≥ 18 years. Participants will be recruited using a dual-mode sampling strategy, combining online and in-person approaches with equal weighting. Standardized tools will include assessments of demographic characteristics, NPSV detection, and its patterns across three subtypes: non-contact, contact without penetration, and penetrative contact, along with psychosexual health outcomes. In the subsequent qualitative phase, approximately 25–40 survey participants will be selected through purposive sampling to ensure maximum variation in factors influencing coping strategies. Semi-structured interviews will explore victims' coping strategies. Quantitative and qualitative data will be integrated to provide a comprehensive understanding of NPSV.

Discussion This study will provide essential evidence on NPSV against women within Asian and Islamic contexts. By integrating quantitative data with qualitative narratives, the findings will offer a robust empirical foundation for developing trauma-informed, victim-centered public health interventions and informing policy reforms.

Plain english summary

Non-partner sexual violence (NPSV) is a global health issue with serious implications for women's sexual and mental well-being. This study investigates the prevalence, patterns, and health impacts of NPSV among Iranian women, using a mixed-methods design that combines a nationwide survey ($N = 1{,}500$) with in-depth interviews

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(*N* = 25–40). The survey examines various forms of NPSV and their associations with anxiety, depression, sexual satisfaction, and functioning. Interviews explore culturally specific coping strategies. Recruitment was conducted both online and in person to reduce reporting barriers. Findings aim to inform support services, legal reforms, and prevention efforts in Iran.

Keywords Non-Partner sexual violence (NPSV), Sexual assault, Rape, Prevalence, Women's psychosexual health, Coping strategies, Mixed-Methods, Iran

Background

Sexual violence is a pervasive form of violence that impacts millions of women worldwide [1]. According to the World Health Organization (WHO), it includes any sexual act, attempted act, or other sexually motivated behaviors imposed without the victim's consent by any individual in any context [2]. Although intimate partner violence (IPV) receives considerable scholarly and policy attention, a substantial portion of sexual violence is committed by non-partners. This study specifically examines non-partner sexual violence (NPSV)—acts perpetrated by individuals other than intimate partners, such as acquaintances, strangers, or family members [3, 4]. NPSV remains comparatively under-researched and insufficiently addressed by social and institutional responses, despite its profound implications for women's health and wellbeing. As a distinct form of victimization, NPSV warrants dedicated investigation into its unique patterns, risk factors, and consequences. NPSV can be classified into three categories based on the severity of the acts: non-contact (e.g., verbal harassment, sexual threats, or unsolicited explicit messages), contact without penetration (e.g., forced touching or kissing), and penetrative contact (e.g., rape or forced oral, anal, or vaginal intercourse) [5]. Non-contact NPSV seeks to demean or control victims without physical interaction, while contact forms involve unwanted physical acts that violate bodily autonomy and consent [1, 5].

The global prevalence of NPSV varies significantly across regions, shaped by cultural norms, legal frameworks, and healthcare disparities [5]. According to the 2021 WHO report, around 6% of women aged 15–49 worldwide have experienced at least one form of NPSV. However, this figure likely underestimates the true scope due to methodological barriers and widespread reluctance to report sexual violence. Many victims refrain from reporting because of social stigma, institutional distrust, or failure to recognize the act as violence—often stemming from normalized aggression or limited awareness of consent [3]. Systematic reviews emphasize the scarcity of reliable data on NPSV subtypes, particularly non-contact forms [4, 5]. Surprisingly, this gap persists even in high-income Western settings [5]. In Asian and Islamic contexts, data are not only scarce but also likely underreported due to moral stigmatization, honor-based violence, and societal exclusion, which further intensify marginalization and obstruct accurate epidemiological assessment [6, 7].

The etiology of NPSV is rooted in gender inequality and power asymmetry, with heightened risk among young women, minorities, individuals with disabilities, and those with histories of childhood trauma [8–12]. Higher education and socioeconomic status are linked to reduced victimization through better access to resources and support [13]. NPSV leads to complex physical, psychological, and socioeconomic consequences. Victims may suffer bruising, pain, bleeding, sexually transmitted infections (STIs), unwanted pregnancies, and unsafe abortions, alongside long-term psychological effects such as post-traumatic stress disorder (PTSD), depression, anxiety, and suicidal ideation [2, 11, 14–16]. Notably, victims frequently experience sexual dysfunction, with impaired arousal, orgasm, and satisfaction [17]. The repercussions further permeate social and economic domains, disrupting relationships, employment, and community engagement [5]. Studies show a dose-response link between violence severity—measured by frequency, act committed, and relationship with the perpetrator—and adverse outcomes [18, 19]. However, defining "severity" remains debated, highlighting the need for standardized metrics in future research.

Victims of NPSV adopt varied coping strategies influenced by personal resilience, social support, and access to resources [20]. Adaptive responses—such as seeking support, engaging in therapy, and practicing self-care—can promote recovery, while maladaptive behaviors like substance use or social withdrawal may worsen distress [21]. Coping preferences vary culturally—self-reliance and therapy dominate in individualistic cultures, whereas collectivist settings favor communal and familial support [22, 23].

In Iran, an Asian Islamic society, research on sexual violence remains scarce due to entrenched cultural and social barriers. Fear of stigma and social repercussions often prevents victims from reporting incidents [24]. While traditional norms, religious beliefs, gender segregation in schools, and strong familial protection of daughters may help limit NPSV, the absence of public awareness, protective laws, and support services leaves many victims unsure where to turn. This lack of knowledge and resources fuels underreporting and perpetuates the cycle of abuse [25]. These challenges underscore the

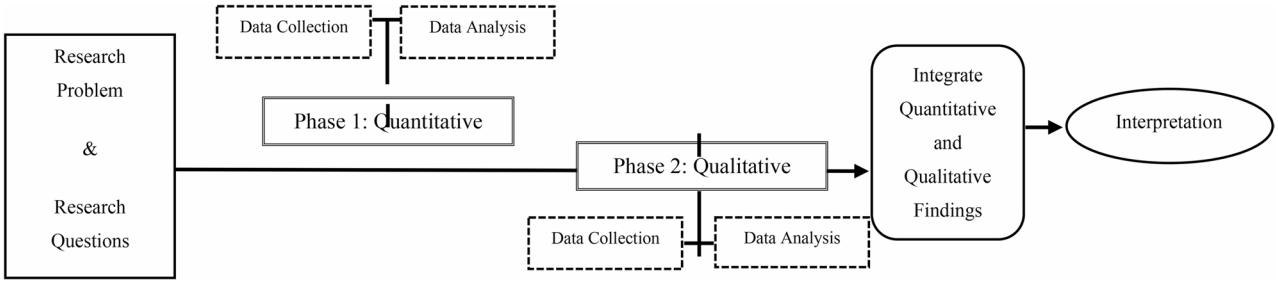

Fig. 1 Diagram of the study process

urgent need for comprehensive, nationally representative research to better understand and address the issue.

This study seeks to contribute to ongoing efforts in addressing persistent challenges in NPSV research, including the need for more comprehensive models that capture its diverse subtypes, patterns, and outcomes, stronger comparative designs, and improved data sources beyond official reports [5, 19]. By employing a sequential mixed-methods design and sampling from a diverse community population, the study offers a more accurate and inclusive understanding of NPSV patterns and consequences in Iranian women. Moreover, by integrating quantitative data with qualitative insights into victims' coping strategies, it provides essential evidence to inform policy decisions and improve healthcare responses.

Study objectives

1- Determine the lifetime prevalence and patterns of overall NPSV and its three subtypes (non-contact, contact without penetration, and penetrative contact) among Iranian women.
2- Compare demographic characteristics and psychosexual health variables between women with and without NPSV experiences.
3- Explore the coping strategies of women with varying demographic characteristics, psychosexual outcomes, and NPSV patterns.

Methods

This study employs a sequential explanatory mixed-methods design beginning with the quantitative phase, which constitutes the primary component of the research, followed by a qualitative phase for deeper exploration (Fig. 1). The integration of both datasets will provide comprehensive insights into NPSV experiences and coping mechanisms.

Phase 1: quantitative study

Study design

A controlled cross-sectional study will be conducted nationwide.

Sampling

Following approval from the Ethics Committee at Tehran University of Medical Sciences, the study began with the development of a questionnaire using Porsline, a secure online platform that ensures participant confidentiality by transmitting responses without collecting names or identifiable information.

To achieve broad representation and minimize bias, 1,500 participants will be recruited through two equally weighted sampling methods: online and in-person. This dual strategy addresses the limitations of online recruitment, which may disproportionately attract more educated and urban individuals.

Online sampling will follow a convenience-based approach, targeting Iranian women from all 31 provinces. To reach this diverse population, the researcher will engage with national (Rubika, Bale, Eitaa) and international (Telegram, WhatsApp, Instagram) social media platforms across various domains including health, education, entertainment, and science. The electronic consent form and questionnaire link will be shared after presenting the ethical approval code, outlining study objectives, and assuring data confidentiality. This approach enables wide geographic coverage and access to digitally active participants.

To include individuals with limited access to digital platforms or smart devices, in-person sampling will be conducted in Tehran and Sari. Tehran, as the capital, offers a culturally diverse population and serves as a convergence point for individuals from across the country. Given that Tehran's population (nearly 9 million) is approximately 28 times larger than Sari's (just over 300,000), the sampling ratio will reflect this difference, with one participant recruited from Sari for every 28 from Tehran. The researcher will visit randomly selected faculties, hospitals, and health centers affiliated with Tehran University of Medical Sciences. Participants will be enrolled based on availability. After introducing the study, the questionnaire link will be sent to interested individuals via mobile. For those without smart devices or with limited literacy, data will be collected verbally and entered directly into the Porsline platform to ensure full inclusion.

Upon completion of both sampling procedures, participants will be invited to optionally provide contact information for follow-up activities, including research-based consultation, participation in the qualitative phase, or entry into a complimentary internet package raffle.

Inclusion criteria

Inclusion in the quantitative phase requires being female and at least 18 years old.

Exclusion criteria

To ensure a focused analysis of NPSV, individuals with a history of IPV are excluded from the quantitative phase. This criterion is assessed at the outset of the questionnaire via the item: "Have you ever experienced sexual violence from a husband, fiancé, or sexual partner?" An affirmative response triggers automatic termination of the survey. While acknowledging potential overlap between IPV and NPSV, this exclusion enables more precise attribution of psychosexual outcomes to NPSV alone.

Measures and data collection

Quantitative data will be collected using validated instruments, including demographic and contextual information, the NPSV questionnaire, a sexual violence pattern assessment tool, and measures of psychosexual outcomes. The psychosexual outcome measures have documented validation in Iranian or comparable populations, ensuring cultural and contextual relevance. To address the large number of variables, we used validated short-form questionnaires proven feasible in national studies, thereby reducing participant load while ensuring methodological rigor [25, 26].

Demographic and contextual information

A brief 9-item questionnaire was used to capture key demographic and contextual variables, including age, marital status, years of education, current province of residence, employment status (unemployed, part-time, or full-time), perceived economic satisfaction (pleasant, moderate, or unpleasant), substance use in the past six months, history of psychotropic medication use (past six months), and lifetime psychiatric hospitalizations.

NPSV questionnaire

The present study employs a newly developed 3-item instrument to assess lifetime exposure to NPSV. Each item follows a dichotomous (yes/no) format, with any affirmative response indicating exposure. The tool captures all three NPSV subtypes: non-contact, contact without penetration, and penetrative contact. For example: "Has anyone other than your spouse or sexual partner ever forced you to experience penetrative sexual violence?" Respondents who report any form of NPSV are automatically directed to follow-up questions on violence patterns. As a brief screening measure, the questionnaire will be evaluated for content validity, clarity, feasibility, and test–retest reliability to ensure stability of responses over time.

NPSV pattern assessment scale

This study applies a 10-item scale to assess patterns of NPSV across three subtypes: non-contact, contact without penetration, and penetrative contact. Developed based on prior literature, the items address age at the time of the incident, frequency, victim–perpetrator relationship, location, specific acts (with behavioral examples), co-occurring substance use, reporting behavior (e.g., to parents, spouse, friends, or authorities), reasons for non-reporting (e.g., fear, anticipated consequences, perceived futility), reactions received (e.g., support or self-blame), and current stress levels [3, 27]. The scale will be assessed for content validity, clarity, feasibility, and test–retest reliability to ensure consistency and reproducibility within the study sample.

Mental health outcomes

Mental health outcomes in this study encompass assessments of anxiety, depression, and self-esteem, providing a comprehensive evaluation of participants' psychological well-being.

1- State-Trait Anxiety Inventory (STAI):
This 6-item scale assesses anxiety symptoms using a 4-point Likert scale (1 = "not at all" to 4 = "very much"). Total scores range from 6 to 24, with higher scores indicating greater anxiety. Scores are interpreted as mild [6–11], moderate [12–17], and severe [18–24]. An example item is: "I feel calm." [28]. The STAI-6 has demonstrated strong reliability and validity in both international and Iranian samples (α = 0.82; ICC = 0.96) [29, 30].
2- Patient Health Questionnaire (PHQ-2):
This 2-item scale screens for depressive symptoms using a 4-point Likert scale (0 = "not at all" to 3 = "nearly every day"). Total scores range from 0 to 6, with higher scores indicating more severe depression. A score ≥ 3 suggests possible clinical depression. An example item is: *"Little interest or pleasure in doing things."* The PHQ-2 shows acceptable reliability (α = 0.74) and strong concurrent validity (r = 0.651) [31, 32].
3- Single-Item Self-Esteem (SISE):
This single-item measure evaluates global self-esteem using a 5-point Likert scale (1 = "strongly disagree" to 5 = "strongly agree"). Higher scores reflect greater self-esteem. The item reads: "*I have high self-esteem.*"

The SISE correlates strongly with the Rosenberg Self-Esteem Scale and demonstrates good reliability (α = 0.72–0.88) [33].

Sexual health outcomes

Sexual health outcomes in this study encompass assessments of sexual satisfaction, sexual function, sexual distress, compulsive sexual behavior disorder, aversion disorder, pornography use, and problematic pornography use.

1- Global Measure of Sexual Satisfaction (GMSEX):
This 5-item scale assesses overall sexual satisfaction using a 7-point bipolar scale (e.g., 1 = "very bad" to 7 = "very good"). Total scores range from 5 to 35, with higher scores indicating greater satisfaction. An example item is: *"The sexual aspect of my relationship is..."* The GMSEX shows excellent internal consistency (α = 0.90–0.96) [34, 35].
2- Female Sexual Function Index-6 (FSFI-6):
This 6-item measure evaluates sexual functioning across six domains using 5- and 6-point Likert scales (0 = "no sexual activity" to 6 = "almost always or always"). Total scores range from 2 to 30, with lower scores indicating greater dysfunction. An example item is: *"Over the past 4 weeks, how often did you feel sexual desire?"* The FSFI-6 demonstrates strong reliability (α = 0.78; test-retest *r* = 0.95) [36, 37].
3- Female Sexual Distress Scale (FSDS):
This 3-item scale measures sexual distress using a 5-point Likert scale (0 = "never" to 4 = "always"). Total scores range from 0 to 12, with higher scores indicating greater distress. An example item is: "*Distressed about your sex life?*" The FSDS-3 shows high reliability (α = 0.89; test-retest > 0.70) [38–40].
4- Compulsive Sexual Behavior Disorder-7 (CSBD-7):
This 7-item scale assesses compulsive sexual behavior using a 4-point Likert scale (1 = "never" to 4 = "very often"). Total scores range from 7 to 28, with scores ≥ 18 indicating high risk. An example item is: *"I feel unable to control my sexual urges."* The CSBD-7 has demonstrated strong reliability (α = 0.80–0.95) and concordance with the original 19-item version [41, 42].
5- Sexual Aversion Disorder Questionnaire:
This 10-item instrument evaluates sexual avoidance using a 4-point Likert scale (1 = "strongly disagree" to 4 = "strongly agree"). Total scores range from 10 to 40, with higher scores indicating greater aversion. An example item is: *"I avoid sexual contact due to fear or discomfort."* The scale shows good reliability (α = 0.82) [43].
6- Pornography Use and Problematic Pornography Consumption Scale-6 (PPCS-6):
Pornography use was assessed through a two-step approach. First, a single screening item *"Have you used pornography in the past year?"*—identified recent pornography use. A clear definition of pornography was provided to ensure accurate interpretation. Second, the 6-item PPCS-6 assessed compulsive use using a 7-point Likert scale (1 = "never" to 7 = "always"). Total scores range from 6 to 42, with scores > 20 indicating problematic use. An example item is: *"I feel unable to stop watching pornography."* The PPCS-6 has shown satisfactory reliability (α > 0.70) [44].

Sample size determination

Based on a study by Mathur et al. (2018), which estimated the prevalence of NPSV in Zambia at 16.9%, the sample size is calculated as follows [45]:

$$\mathrm{P} = 0.169,\ \mathrm{q} = 0.831,\ \mathrm{z} = 1.96,\ \alpha = 0.05,\ \mathrm{d} = 0.019$$

$$\mathrm{N} = \mathrm{z}^2\,(\mathrm{pq})\,/\mathrm{d}^2$$

$$\mathrm{N} = (1.96)^2\,(0.169^{*}0.831)\,/\,(0.019)^2 \approx 1500$$

Data analysis

Quantitative data will be analyzed using SPSS version 26. Data distribution will be assessed via histograms and the Shapiro-Wilk test. Independent variables include overall and subtype-specific NPSV exposure; dependent variables comprise demographic and psychosexual health outcomes. Normally distributed continuous variables will be reported as mean ± standard deviation and compared using independent t-tests. Categorical variables will be presented as frequencies (percentages) and analyzed using Chi-square or Fisher's exact tests, as appropriate. Logistic regression will be conducted for multivariate analysis. To control for type I error due to multiple comparisons, Bonferroni correction will be applied, setting the significance threshold at 0.005 based on an average of 10 variables per model.

Phase 2: qualitative study

Study design

The second phase is a qualitative study using content analysis to explore coping strategies among Iranian women affected by NPSV. Due to limited research and the cultural specificity of responses to violence, qualitative data are crucial for capturing context-based insights.

Understanding how victims navigate NPSV within Iran's sociocultural context will inform culturally sensitive support interventions that can be developed and implemented in future programs.

Sampling and data collection

In the qualitative phase, 25–40 semi-structured interviews will be conducted with victims identified in the quantitative stage. Participants will be selected through purposive sampling to ensure diversity in age, education, geographic location, NPSV subtype, and associated psychosexual health outcomes. This approach aims to capture a wide range of experiences and coping strategies.

To enrich the analysis, 5–10 experts—including healthcare providers, trauma-informed counselors, psychologists, and sexual health specialists—will also be interviewed. Experts will be selected based on their professional experience supporting NPSV victims, recruited through academic affiliations, clinical networks, and relevant organizations. Their perspectives will be analyzed separately and integrated with victims' narratives to provide a comprehensive understanding of coping mechanisms and systemic challenges.

All participants will receive a clear explanation of the study's objectives during initial contact, and verbal consent will be obtained. Interviews will be conducted either online or in person, depending on participant preference, at mutually agreed locations such as hospitals, health centers, or academic institutions. Each session will begin with rapport-building and a brief, accessible explanation of NPSV. A structured yet adaptable interview guide—including items on policy reform and victim-centered interventions such as trauma-informed care, legal assistance, and community-based support—will facilitate open dialogue and the emergence of novel themes. (A detailed guide is provided in the supplementary material.)

Interviews are expected to last 45–60 min, with some variation based on participant responses. All sessions will be audio-recorded with prior consent, transcribed verbatim, and returned to participants for accuracy verification. Data collection will proceed until thematic saturation is achieved, defined as the point when 80–90% of responses become repetitive [46].

Qualitative data will be analyzed by two experienced researchers trained in trauma-informed interviewing, which emphasizes safety, trust, empowerment, and sensitivity to retraumatization [47]. A double coding process will be employed to ensure validity and reliability, with inter-coder agreement maintained throughout. This approach minimizes bias and enhances analytical rigor, enabling the identification of nuanced patterns across victim and expert accounts.

Inclusion criteria

Inclusion criteria for the qualitative phase mirror those of the quantitative component: participants must be women aged 18 or older with a history of NPSV. From the survey cohort, individuals will be purposively selected based on willingness to participate and to ensure diversity in demographics, NPSV subtypes, and psychosexual health outcomes.

Exclusion criteria

No exclusion criteria will be applied to the qualitative phase.

Data analysis

Qualitative data will be analyzed concurrently with collection by two trained researchers using conventional content analysis. Categories will not be predefined; instead, themes and their labels will emerge inductively from the data to support the emergence of new insights [48]. The analysis will follow Zhang and Wildemuth's (2009) eight-step framework: data preparation, unit of analysis definition, category and coding scheme development, pilot testing, full-text coding, consistency assessment, conclusion drawing, and reporting. This approach ensures methodological rigor and minimizes bias through double coding and inter-coder agreement [49].

Integration of quantitative and qualitative data

This study employs an explanatory sequential mixed-methods design, in which quantitative and qualitative phases are systematically integrated to generate comprehensive insights. The process begins with a national survey, where psychosexual outcomes are analyzed across NPSV subtypes. Based on these findings, qualitative participants will be purposively selected from individuals reporting experiences of all three subtypes and expressing willingness to participate. Both favorable and unfavorable psychosexual scores will be included to clarify why some victims demonstrate positive adaptation while others experience adverse outcomes. Diversity in demographic and contextual variables will also be ensured to capture a wide range of perspectives. Integration will be operationalized through triangulation and sequential explanation: quantitative results will guide the sampling frame and inform interview protocols, while qualitative narratives will be systematically compared with survey trends to identify convergences, divergences, and explanatory mechanisms.

Beyond elaborating significant quantitative relationships—for example, explaining why certain NPSV subtypes are more strongly associated with specific outcomes—the qualitative phase has its own distinct objective: to explore coping strategies in depth. This phase will generate original insights into the processes by which

individuals navigate trauma, resilience, and psychosocial adaptation. By articulating coping mechanisms that contribute to either favorable or unfavorable psychosexual outcomes, the qualitative findings will enhance conceptual coherence and underscore the added value of the mixed-methods approach, providing knowledge not captured by survey measures.

Ethical approval and informed consent

All participants will provide written informed consent. Confidentiality and the right to withdraw without consequence will be upheld throughout the study. To safeguard participant well-being, information about available mental health and crisis support services will be provided to all participants, irrespective of whether they disclose personal contact details. Interviewers will be trained in trauma-informed approaches, and any participant exhibiting distress will be sensitively referred to certified counselors at the affiliated health center.

Discussion

This study protocol presents a comprehensive investigation into the prevalence, patterns, consequences, and coping strategies related to NPSV against women in Iran. It aims to address critical gaps in gender-based violence research and inform public health practice through a culturally grounded, mixed-methods approach.

This research will first generate essential epidemiological data on NPSV within a culturally specific context, where comprehensive studies remain scarce. Despite growing attention to NPSV prevalence in recent years, substantial knowledge gaps persist [4, 50]. By analyzing subtype patterns, demographic variables, and contextual factors across provinces, the study aims to identify key risk factors—such as age, socioeconomic status, and frequency of victimization—that shape NPSV prevalence and its associated outcomes.

Second, this study addresses a key gap in understanding the broader impact of NPSV on psychosexual health. Existing evidence shows that its effects extend beyond physical trauma to long-term psychological and sexual health complications [16, 17, 51]. Using validated measures, the study will quantify these outcomes and examine how intersectional factors—such as age, socioeconomic status, and mental health—moderate them. This assessment will offer critical insights for designing holistic, culturally sensitive intervention strategies [52, 53].

Third, the investigation of coping strategies employed by women following NPSV is crucial for developing effective support mechanisms. Nieder et al. (2019) demonstrated that women utilize a range of coping strategies, from seeking social support to employing avoidance techniques [54]. The qualitative phase will explore culturally specific strategies and individual contexts. Identifying barriers—such as stigma, limited access to mental health services, and negative societal attitudes—will further inform policy reforms aimed at strengthening victim support frameworks.

This study's mixed-methods design offers a major advancement in NPSV research by combining statistical analysis with contextual insights into coping and help-seeking behaviors. Findings will inform trauma-informed care, culturally sensitive screening tools, and targeted interventions. The dual sampling strategy and ethical framework may also serve as a model for future research in conservative settings.

Limitations

This protocol acknowledges several limitations that may affect future validity and generalizability. Online recruitment may over represent younger, urban, educated women; in-person sampling in Tehran and Sari will help improve demographic diversity. However, findings may not generalize to high-risk groups such as transgender individuals and sex workers. Confidentiality will be emphasized to reduce underreporting, and interviews will be conducted in a non-judgmental setting. Excluding IPV will limit the ability to explore overlapping violence and coping strategies, narrowing the scope of psychosocial insights.

Supplementary Information

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Supplementary Material 1.

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Authors' contributions

F.F, M.N, M.HZ, M.P.V-M, and SF.G contributed to the design of the protocol. F.F, M.HZ, M.P.V-M, and SF.G contributed to the implementation and analysis plan. F.F, M.N, M.P.V-M, and SF.G wrote the first draft of this protocol article. All authors have critically read the text and contributed inputs and revisions, and all authors have read and approved the final manuscript.

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Data availability

No datasets were generated or analysed during the current study.

Declarations

Ethics approval and consent to participate

This protocol has been approved by the Ethics Committee of Tehran University of Medical Sciences, with Ethical code: IR.TUMS.FNM.REC.1403.060. All research procedures, including data collection, adhere to the principles of the Declaration of Helsinki. Informed consent will be obtained from all study participants prior to their inclusion in the research.

Consent for publication
Not applicable.

Competing interests
The authors declare no competing interests.

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