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Original Research Article

Awareness and Use of Mobile Phone Applications Addressing Violence against Women: A Case of Mathare, Nairobi City County, Kenya

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Abstract: Mobile phone applications have increasingly been developed to support prevention, reporting and response to violence against women (VAW). However, the availability of digital tools does not necessarily translate into awareness or use, particularly in informal urban settlements where poverty, unequal access to technology and social stigma may constrain digital help-seeking. This study examined awareness and use of mobile phone applications addressing VAW in Mathare, Nairobi City County, Kenya. The study was guided by Resource Theory and Social Exchange Theory and used an exploratory mixed-methods design. The study targeted residents of Hospital and Utalii wards and included women, men and key informants involved in VAW response. A general sample of 200 respondents was planned; 185 completed structured questionnaires, while 15 key informant interviews and two focus group discussions involving 20 participants were completed. Quantitative data were analysed using descriptive statistics and qualitative data were analysed thematically. Physical violence (22.4% among women and 13.3% among men) and sexual violence (16% among women and 10% among men) were the most prevalent forms reported. Smartphone ownership was relatively high among respondents, at 59% for women and 63.3% for men, but awareness of VAW-specific applications was low: only 30% of women and 26% of men who owned smartphones reported awareness of such applications. Use was lower still. Key barriers included limited digital literacy, language barriers, financial dependence, privacy and security concerns, and inadequate network access. Respondents identified digital literacy initiatives, simple interfaces, multilingual and secure applications, mobile-phone acquisition initiatives, trusted institutional partnerships and community-based access as important strategies. The study concludes that improving digital responses to VAW in Mathare requires more than increasing access to smartphones. It requires an integrated, community-based approach that addresses structural inequalities, awareness, trust, affordability, usability and safety.

Keywords: Violence against Women, Mobile Applications, Digital Literacy, Gender-Based Violence, Mathare, Mobile Technology, Reporting.

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INTRODUCTION

Violence against women is a major human-rights and public-health concern that takes multiple forms, including physical, sexual, psychological and economic violence. The problem is shaped by gender inequality and may be intensified by poverty, social norms and unequal access to resources. The use of mobile technology has created new possibilities for prevention, information sharing, emergency alerts, reporting and referral to support services. Mobile applications can therefore provide an additional channel through which survivors and witnesses can seek assistance.

The literature reviewed in the study shows that VAW applications can be broadly understood as tools for emergency response, reporting, safety, education, avoidance, evidence building and connection to legal, psychosocial or medical services. Examples discussed in the thesis include SafeYOU, Safecity, Safepal, Taarifa, the Wangu Kanja Foundation's SV-Case Study application, Safe Mathare and the Uwiano SMS

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platform. The potential of these tools, however, depends on whether intended users know about them, can access them, understand how they work, trust them and can use them safely in their social environment.

Mathare provides an important setting for examining this issue. The thesis describes Mathare as a densely populated informal settlement with significant socioeconomic challenges and documented concerns relating to VAW. The study focused on Hospital and Utalii wards, whose combined target population was reported as 38,384 residents. The research was motivated by the apparent gap between the existence of mobile tools for responding to VAW and the limited awareness and use of those tools among women in the community.

Previous research has emphasized the gender digital divide, technological accessibility, application design and the potential of mobile technology for development. Nevertheless, the thesis identified limited empirical evidence concerning awareness and use of VAW applications in urban informal settlements in East Africa, particularly Mathare. It also highlighted a gap between phone ownership and meaningful digital access: owning a phone does not necessarily mean possessing the skills, confidence, privacy or social freedom required to use a VAW application.

This article therefore addresses four questions: what forms of VAW are experienced in Mathare; what is the pattern of mobile-phone and VAW-app ownership and awareness; what challenges affect the use of VAW applications; and what strategies could improve technology-supported reporting?

Theoretical Framework

Resource Theory

Resource Theory explains interpersonal power partly in terms of access to valued resources. In the context of VAW, unequal access to income, education, employment and other resources may increase women's vulnerability and influence power relations within intimate relationships. The thesis applies this perspective to mobile technology by treating information, social support and access to digital tools as resources. Women facing poverty, financial dependence and limited access to technology may therefore be less able to use digital mechanisms for protection and reporting.

Social Exchange Theory

Social Exchange Theory emphasizes perceived costs and benefits in social relationships. Applied to VAW reporting, the theory helps explain why knowledge of an application may not lead to use. A woman may weigh possible benefits of reporting against perceived risks such as retaliation, stigma, loss of financial support, being blamed, lack of confidentiality or distrust of authorities. Where the perceived social and personal costs of reporting are high, non-use may remain rational from the survivor's perspective.

Together, the two theories provide a structural and relational explanation for the study's central finding: low uptake of VAW applications is not simply a consequence of individual technological inability. It is also connected to resource inequality, gendered power relations, social norms, trust and the perceived consequences of reporting.

METHODOLOGY

The study used an exploratory research design. This design was selected because the thesis identified limited previous empirical research on awareness and utilization of VAW mobile applications at community level in Mathare. The exploratory approach enabled the researcher to combine quantitative and qualitative evidence to describe awareness, utilization, challenges and possible strategies.

The study was conducted in Mathare Constituency, Nairobi City County, with Hospital and Utalii wards purposively selected as the study sites. The target population comprised women aged 18 years and above who had experienced or were at risk of VAW, men who had interacted with VAW programmes or whose female partners had interacted with such programmes, and key informants involved in VAW response, including social workers, NGO representatives, local administrators, community leaders and law-enforcement officers.

A general sample of 200 respondents was determined using the finite-population approach described in the thesis. Stratified and systematic sampling were used for general respondents, while purposive sampling was used for key informants. The questionnaire component achieved 185 completed responses (92.5%). In addition, 15 key informant interviews and two focus group discussions involving 20 participants were completed. The resulting achieved total across the three instruments was 220 participants, representing a reported overall response rate of 93.6%.

Data were collected using structured questionnaires, key informant interview guides and focus group discussion guides. Face-to-face administration of questionnaires was used partly because of differences in literacy levels and the sensitivity of the subject. Quantitative data were analysed using descriptive statistics, including frequencies and percentages, with SPSS. Qualitative data from interviews and focus groups were transcribed, coded and analysed thematically and through content analysis.

Ethical safeguards included informed consent, confidentiality and anonymity. The thesis reports that approval was obtained from the Kenyatta University ethics process and that a NACOSTI research licence and relevant local authorizations were secured. Participants could decline participation without repercussions.

RESULTS

Participant Characteristics

The questionnaire sample comprised 125 women (67.6%) and 60 men (32.4%). The gender distribution reflected the study's emphasis on women's experiences while retaining male respondents for comparative and contextual analysis. The thesis also considered age, education, marital status and income because these characteristics were relevant to both experiences of VAW and access to digital technology.

Forms of Violence against Women in Mathare

Physical and sexual violence were the most prevalent forms reported. Among women respondents, physical violence was reported at 22.4% and sexual violence at 16%; among men, the corresponding figures were 13.3% and 10%. Psychological and economic forms of violence were also identified. The findings indicate that VAW in Mathare is multidimensional rather than limited to physical assault.

Economic conditions emerged as a particularly important driver. The thesis reports that 50% of men and 44% of women identified economic factors as a main cause of VAW, with cultural and social factors also playing important roles. Qualitative accounts indicated that some women experienced violence after becoming economically active, including through participation in savings groups or casual employment. The Resource Theory interpretation was that changes in access to resources could alter power relations within intimate relationships.

Social and cultural factors also affected reporting. The findings describe stigma, victim-blaming, fear of retaliation and the normalization of violence as forms of discipline as factors that can discourage survivors from reporting. These conditions are important because they affect not only the occurrence of violence but also whether women can safely seek assistance through digital mechanisms.

Mobile-Phone Ownership, Awareness and Use of VAW Applications

The study found a substantial level of smartphone ownership but much lower awareness of VAW-specific applications. Smartphone ownership was reported at 63.3% among men and 59% among women. However, only 26% of male smartphone owners and 30% of female smartphone owners had heard of a VAW application. Among women who were aware of relevant applications, domestic-violence reporting and support applications were the most commonly known category (24.3%). Among men, legal and counselling support applications were the most commonly known category (31.6%).

Awareness of locally relevant tools was particularly limited. The thesis reports very low knowledge of the Uwiano SMS platform and no awareness of the Safe Mathare application among the respondents discussed. This finding is important because both tools were designed in response to local safety concerns. The gap therefore appears to involve dissemination and community awareness as much as technological availability.

Use was lower than awareness. In the smartphone-ownership table, 6.4% of women and 3.3% of men were reported as using VAW applications, while large proportions of smartphone owners had not used such applications. The central implication is that mobile-phone ownership alone should not be treated as evidence of access to digital VAW services.

Challenges to VAW-Application Use

Among respondents who answered the relevant challenge question, 62.5% reported experiencing difficulties when using VAW applications. Women reported substantial barriers, with 64.9% indicating challenges. The thesis identifies several interconnected barriers.

First, digital literacy limited the ability of some respondents to navigate smartphones, locate applications, understand interfaces and use available features. The challenge was particularly evident among some older and less-educated women. Second, language was a barrier because many applications were presented in English while respondents commonly communicated in Kiswahili or other community languages.

Third, financial constraints affected smartphone acquisition, data affordability and the ability to maintain access. Financial dependence on male partners could also create a relational barrier when phone ownership or use was perceived as threatening or when partners monitored women's activities. Fourth, privacy and security concerns were significant. Survivors may fear that an abusive partner could discover an application, notification, browser history or reporting activity. Fifth, network coverage, battery and data costs could limit reliable use.

These barriers demonstrate that the digital divide is multidimensional. Access involves possession of a device, affordability of connectivity, digital skills, language accessibility, privacy, safety and the social freedom to use technology.

Strategies for Technology-Supported Reporting

Respondents proposed a range of strategies. Reducing the digital divide and strengthening digital literacy was the most frequently identified strategy, selected by 32% of men and 26% of women. Mobile-phone acquisition initiatives were especially important among women, with 20% identifying this option. Simple interfaces with clear navigation, application translation and security features, collaboration with trusted NGOs and government bodies, stronger data collection and

response systems, and shared devices or community partnerships were also identified.

The pattern of responses suggests that a successful digital VAW intervention must operate at several levels. At the technical level, applications need simple navigation, multilingual functionality and strong privacy and security. At the institutional level, reporting platforms need clear links to trusted NGOs, government and response services. At the community level, women need awareness, digital skills, affordable access and trusted channels through which they can seek help.

DISCUSSION

The findings reveal a pronounced awareness-use gap. Although smartphone ownership was relatively high, awareness of VAW applications was low and actual use was lower still. This supports the distinction made in the thesis between access to a device and meaningful access to a service. The finding is consistent with literature showing that mobile interventions may fail to reach intended users when dissemination, usability, affordability and local context are not adequately addressed.

The results also extend the digital-divide discussion by demonstrating how gendered resource inequalities shape digital help-seeking. Resource Theory is useful because the same economic inequalities that contribute to vulnerability to VAW may restrict women's ability to obtain smartphones, purchase data and use independent communication channels. The findings concerning women who experienced violence after becoming economically active further illustrate the importance of resource-based power relations.

Social Exchange Theory helps explain why awareness is insufficient. Reporting violence may produce important benefits, but it may also carry perceived costs. Fear of retaliation, stigma, blame, loss of economic support and distrust in authorities can make reporting appear risky. A technically sophisticated application will therefore have limited effect if the social environment does not provide sufficient confidence that reporting will be confidential, safe and followed by meaningful support.

The language and usability findings reinforce the importance of context-sensitive application design. A VAW application intended for an informal settlement should not assume high literacy, constant internet connectivity or familiarity with complex interfaces. Local-language support, simple navigation, low-data functionality and discreet safety features can increase accessibility. The same principle applies to awareness campaigns: community organizations, local leaders, service providers and trusted messengers can play a central role in connecting women to available tools.

Finally, the study suggests that digital reporting should complement rather than replace existing VAW response systems. Applications are useful only when they connect survivors to real services, including police, health care, counselling, legal assistance, shelters and community support. Digital tools should therefore be integrated into broader prevention and response systems rather than treated as stand-alone technological solutions.

CONCLUSION

This study demonstrates that the central challenge in Mathare is not simply whether women possess mobile phones. The more significant problem is whether women know about VAW applications, can use them confidently, can afford the required technology and connectivity, and can do so safely within relationships and communities where reporting may carry social or economic risks.

Physical and sexual violence were the most prevalent forms reported, while economic, cultural and social factors shaped both experiences of VAW and access to digital responses. Smartphone ownership was substantially higher than awareness of VAW applications, and application use was lower still. Digital literacy, language, financial dependence, privacy and security concerns and connectivity constraints were major barriers.

The evidence supports an integrated approach to digital VAW response. Such an approach should combine community awareness and digital-literacy training with affordable access, simple and multilingual application design, strong privacy protections, trusted institutional partnerships and effective referral and response systems. Technology can strengthen VAW prevention and reporting, but its effectiveness depends on the social and economic conditions in which women use it.

Recommendations

First, county and national actors, NGOs and community organizations should establish sustained communitybased digital-literacy and VAW-app awareness programmes. These programmes should use accessible language and practical demonstrations rather than assuming prior smartphone skills.

Second, application developers should design for the realities of informal settlements. Applications should use simple interfaces, clear navigation, Kiswahili and other locally appropriate language options, low-data functionality and discreet safety features. Privacy protections should be treated as core safety requirements.

Third, programmes should address affordability and device access. Mobile-phone acquisition initiatives, community digital-access points and partnerships that

improve affordable connectivity could reduce barriers faced by women with limited financial resources.

Fourth, developers and service providers should work with trusted NGOs, community organizations, government agencies and law-enforcement institutions so that digital reports are connected to real response mechanisms. Awareness campaigns should clearly communicate what happens after a report is submitted.

Fifth, digital VAW interventions should be evaluated continuously with users from the communities they serve. Monitoring should assess not only downloads or registrations, but also awareness, successful reporting, confidentiality, referral outcomes, user safety and satisfaction.

Study Limitations

The study was conducted in two wards of Mathare and therefore its findings should not be generalized automatically to all informal settlements in Nairobi or Kenya. The topic was sensitive and some respondents may have under-reported experiences of VAW or over-reported knowledge of technology because of stigma or social desirability. Differences in digital literacy and network access may also have influenced responses. Because the study used an exploratory design and descriptive analysis, the findings are best interpreted as evidence of patterns and contextual relationships rather than causal estimates.

Implications for Policy, Practice and Research

For policy, the findings support integration of digital VAW mechanisms into broader gender-based violence prevention and response systems. For practice, organizations should combine technology with community outreach, counselling, legal support, safety planning and referral services. For research, future studies could examine longitudinal changes in awareness and use, compare different informal settlements, evaluate specific applications after implementation, and investigate the role of faith-based organizations, community groups and local service providers in promoting safe uptake of digital VAW tools.

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