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THEATER-BASED DENGUE PREVENTION IN A WOMEN'S PRISON: A PRISON PRIMARY CARE MICROINTERVENTION IN RIO DE JANEIRO, BRAZIL

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ABSTRACT

Dengue prevention in prisons is complicated by environmental vulnerability, institutional routines, and the limited reach of lecture-based health education. This descriptive experience report describes and analyzes the implementation of a theater-based microintervention by a prison primary care team in a women's prison in Rio de Janeiro, Brazil. Conducted from July to November 2025, the intervention comprised six conversation circles, weekly preparatory workshops and rehearsals, a collectively developed play, one courtyard performance, and peer dissemination by nine incarcerated health monitors representing nine cells. Twelve incarcerated women participated directly in script development and performance, and more than 150 women were estimated to have been reached directly or indirectly. Routine process observations indicated active participation in content development, broader circulation of information on dengue symptoms, transmission, and breeding-site prevention, greater involvement of peer health monitors, and closer dialogue between the health team and incarcerated women. No pre-intervention/post-intervention knowledge test, comparison group, entomological measure, or clinical outcome assessment was conducted; effectiveness and causal impact therefore cannot be inferred. Participatory theater was feasible in this setting and may complement conventional health education when supported by intersectoral coordination, peer participation, and safeguards against coercion.

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INTRODUCTION

Dengue is a mosquito-borne viral disease whose prevention and control depend largely on sustained vector-control measures, early recognition of warning signs, and community participation in eliminating potential *Aedes* breeding sites (World Health Organization, 2025). In the Americas, the simultaneous circulation of several dengue virus serotypes continues to create conditions for recurrent outbreaks, making risk communication and locally adapted community engagement central components of preparedness (Pan American Health Organization, 2025). The intervention reported here was developed in Rio de Janeiro during a period of continuing dengue transmission. Municipal surveillance data for 2025 recorded 9,251 non-discarded dengue cases among city residents, including 126 cases in Benfica, the neighborhood where the prison is located; the largest monthly concentration in Benfica occurred from March through May (Rio de Janeiro Municipal Health Secretariat, 2026). These figures describe the surrounding territory rather than transmission inside the prison, but they provided an epidemiologic rationale for strengthening prevention activities in the institution. Health care for people deprived of liberty is a responsibility of Brazil's Unified Health System (Sistema Único de Saúde - SUS). The National Policy for Comprehensive Health Care for People Deprived of Liberty in the Prison System (Política Nacional de Atenção Integral à Saúde das Pessoas Privadas de Liberdade no Sistema Prisional - PNAISP) formally organizes prison health within health-care networks and assigns primary care teams a role in health promotion, disease prevention, surveillance, and care coordination (Brazil, 2014a, 2014b). Women in Brazilian prisons experience substantial social and health vulnerabilities, making accessible, gender-sensitive, and context-specific health education especially important (Leal *et al*., 2022). In restrictive institutional settings, one-way transmission of information may have limited capacity to generate dialogue, shared problem solving, and active participation. Brazil's National Policy for Popular Education in Health recognizes dialogue, participation, cultural expression, and the arts as legitimate components of health practices in the SUS (Brazil, 2013). Reviews of educational interventions against *Aedes* and dengue likewise indicate that education is most useful when integrated with community mobilization, environmental action, and other vector-control measures rather than delivered as an isolated informational activity (Dias *et al*., 2022; Llorente-Pérez *et al*., 2023). Participatory theater can transform health messages into collectively produced narratives and may create opportunities for identification, rehearsal of responses, peer communication, and discussion of institutional barriers. Studies in other health contexts have found theater-based approaches feasible for tuberculosis education and community

engagement (Parent *et al*., 2017; Schmidt *et al*., 2016), while arts-based health promotion has also been developed with justice-involved populations (Edmondson, 2021). Evidence specific to dengue education in women's prisons, however, remains limited. This descriptive experience report therefore aims to describe and analyze the implementation, process contributions, feasibility, and limitations of a theater-based dengue-prevention microintervention in a women's prison in Rio de Janeiro, without evaluating effectiveness or causal impact.

MATERIALS AND METHODS

Design and setting: This was a descriptive experience report of a service-based health education microintervention. The report was organized with reference to SQUIRE 2.0 principles for transparent reporting of health-care improvement work, while recognizing that the activity was not designed as a formal quality-improvement study or effectiveness trial (Ogrinc *et al*., 2016). The intervention took place from July through November 2025 at the Instituto Penal Oscar Stevenson, a women's prison located in Benfica, Rio de Janeiro, Brazil. The priority problem was identified in routine practice: conventional dengue education activities were perceived by the health team as generating limited mobilization and active participation among incarcerated women. The local epidemiologic context and the need for messages adapted to prison routines supported the selection of dengue prevention as the thematic focus. The intervention remained within the practical governance of the prison primary care team, which was responsible for technical content, educational planning, facilitation, and coordination.

Intervention components: The microintervention comprised four connected components. First, the team conducted six conversation circles addressing dengue signs and symptoms, modes of transmission, warning signs, prevention, elimination of potential breeding sites, and the importance of collective observation and communication within the prison. Technical content was aligned with national dengue-prevention guidance (Brazil, 2009). During these encounters, the idea of using theater emerged from the incarcerated women as a more accessible and participatory educational strategy.
Second, 12 incarcerated women who expressed interest took part in weekly preparatory workshops, script development, role definition, rehearsals, and staging. The script used simple language, humor, dramatization, and situations drawn from daily institutional life. The process emphasized collective construction and dialogue, consistent with popular education principles (Brazil, 2013). Third, one educational performance was held in the prison courtyard in September 2025. The play addressed dengue symptoms, transmission, prevention, possible breeding sites, and the importance of reporting environmental risks to the health team. Fourth, nine incarcerated health monitors - one linked to each of nine cells - supported mobilization and peer dissemination before and after the performance. These monitors had completed a six-month, 180-hour training course delivered inside prison units and certified by the Rio de Janeiro Municipal Health Secretariat. Classes were taught by professionals from the Municipal Health Secretariat, universities, and the Oswaldo Cruz Foundation (Fiocruz), and addressed tuberculosis, HIV, syphilis, viral hepatitis, dengue, leprosy, and other health conditions relevant to people deprived of liberty, including recognition of common symptoms and communication of health concerns to the primary care team. The intervention sought to extend information beyond the direct performers through conversation circles, cell-based communication, and routine contact with the health team. The prison primary care team remained responsible for the technical health content. Prison management, security, social assistance, and other institutional sectors supported authorization and logistics; municipal health and state prison-administration structures provided technical or operational support described in the source report.

Process assessment: The source material consisted of the intervention plan, routine implementation records, activity counts, and reflective service observations documented by the implementing team. Predefined process indicators included completion of six conversation circles, direct participation of 12 women in the play, involvement of nine health monitors, delivery of one courtyard performance, and estimated direct or indirect reach of more than 150 incarcerated women. The reach estimate was produced jointly by the health monitors and the prison primary care team from cell-based mobilization, observation of participation in the collective activities, and routine follow-up conversations about attendance and subsequent circulation of messages. It was an operational estimate rather than a formal survey or deduplicated attendance count. Additional observations concerned participation in script development, circulation of prevention messages, engagement of health monitors, dialogue between the health team and incarcerated women, and intersectoral feasibility. The information was synthesized descriptively in four domains: delivery and reach; co-creation and participation; peer dissemination; and institutional feasibility. Planned activities were compared with activities reported as completed. No inferential statistical analysis was performed. There was no baseline or post-intervention questionnaire, comparison group, validated knowledge measure, formal qualitative interview, participant-satisfaction instrument, entomologic survey, environmental audit, or systematic clinical outcome assessment. Accordingly, this report evaluates implementation processes and observed participation, not effectiveness in changing knowledge, behavior, vector density, or dengue incidence.

Ethical considerations: The activity was implemented as routine prison health education, and this manuscript uses only aggregated, non-identifiable information about implementation. No participants were recruited specifically for research, and no interviews, questionnaires, clinical records, direct quotations, photographs, names, or other personal identifiers were used. Participation in the educational activities did not affect access to health care, prison status, or institutional benefits. Research Ethics Committee review was not required for this service-based experience report because it describes a routine health education activity and uses only aggregated, non-identifiable implementation information, without individual-level research data. Institutional authorization for the activity and for publication of this report was obtained.

RESULTS AND DISCUSSION

Delivery, reach, and operational feasibility: All core activities specified in the intervention plan were reported as completed. Six conversation circles preceded the theatrical presentation; 12 incarcerated women participated directly in script development, organization, rehearsal, and performance; nine health monitors supported dissemination across nine cells; and one performance was delivered in the prison courtyard. Combining the collective presentation, conversation circles, and peer circulation of messages, the source report estimated that more than 150 women were reached directly or indirectly. These figures describe implementation reach rather than educational effectiveness. The estimate of more than 150 women was developed collaboratively by the trained health monitors and the prison primary care team, drawing on the monitors' mobilization across the nine cells, observation of participation in the activities, and routine post-performance conversations about attendance and message circulation. It was not derived from a unique-attendee register; repeated contacts may have been counted, and direct and indirect exposure were not measured separately. Even so, completion of the planned activities within a setting governed by security routines, movement restrictions, and intersectoral authorization indicates operational feasibility. The experience also shows that an arts-based activity can be incorporated into prison primary care when the health team retains responsibility for technical content and other sectors provide logistical support.

Co-creation, participation, and accessible communication: The clearest observed contribution was the shift from a predominantly expository model toward co-creation. The women directly involved did not only receive information; they helped select situations, develop the script, define roles, rehearse scenes, and present the final activity.

Table 1. Intervention Components And Reported Implementation

Component	Reported implementation
Conversation circles	Six sessions on signs, symptoms, transmission, prevention, breeding sites, and collective responsibility.
Theater co-creation	Weekly workshops, script development, rehearsals, and performance with 12 incarcerated women.
Courtyard performance	One educational play performed in September 2025.
Peer dissemination	Nine trained peer health monitors linked to nine cells supported mobilization and dissemination; operational reach was estimated collaboratively at more than 150 women.

Note: Counts are process measures documented in routine service records. The operational reach estimate was produced collaboratively by the trained health monitors and prison primary care team; it was not deduplicated and should not be interpreted as an effectiveness outcome.

Routine observations described active participation in this process and greater engagement during the theater-based activities than during earlier lecture-centered approaches. Because engagement was not measured with a standardized instrument, this finding should be understood as a situated service observation rather than a quantified change. The use of humor, dramatization, and situations drawn from daily prison life appeared to make technical content easier to discuss. This is consistent with participatory theater studies in other health settings, where dramatic methods have supported group interaction, contextual interpretation, and discussion of preventive practices (Parent *et al*., 2017; Schmidt *et al*., 2016). An arts-based health education initiative involving justice-involved youth likewise illustrates how creative production can carry prevention messages while recognizing participants as knowledge producers rather than passive recipients (Edmondson, 2021). The intervention also aligns with popular education in health, which emphasizes dialogue, experience, cultural expression, and shared construction of knowledge (Brazil, 2013). However, participation should not be equated automatically with knowledge acquisition or behavior change. Reviews of dengue education show that outcomes vary across intervention designs and that stronger evidence usually comes from programs combining education with community mobilization, environmental management, and explicit outcome measurement (Dias *et al*., 2022; Llorente-Pérez *et al*., 2023). The theater activity should therefore be interpreted as a communication and engagement strategy that complements - not replaces - vector surveillance, environmental control, and clinical preparedness.

Peer dissemination and intersectoral coordination: The nine health monitors provided a pathway for messages to circulate beyond the 12 performers. Their previous 180-hour training and their links with the nine cells supported mobilization for the performance, follow-up conversations, and communication with the prison primary care team. Reflective service observations described greater involvement of the monitors as peer-education references and broader discussion of dengue symptoms, transmission, and prevention within the cells. These were situated observations rather than measured intervention effects. Peer education may extend the reach of professional teams and create communication channels that are more accessible within closed institutions, but its quality depends on training, supervision, message accuracy, and organizational support (Topping, 2022). In this intervention, the monitors' role remained connected to the prison primary care team rather than operating as a substitute for professional responsibility. Implementation depended on coordination among health, prison management, security, social assistance, and institutional support structures. The performance required authorization, scheduling, access to a collective space, and accommodation within the prison routine. Intersectoral tensions are also described in dengue education, where sustained prevention cannot be achieved by the health sector alone (Flisch, 2017). In the prison setting, this coordination is especially important because many environmental determinants - water storage, waste management, drainage, structural maintenance, and access to common areas - are outside the control of incarcerated women and cannot be corrected through education alone. Reflective routine observations by the implementing team also indicated closer dialogue between the health team and incarcerated women during the activities. This perceived change may be relevant to trust and future communication of symptoms or environmental risks, but it was not assessed as a relational or service-use outcome and should not be interpreted as a proven effect. The intervention should therefore be understood as a feasible process of participatory communication, not as evidence of a reduction in dengue transmission.

Limitations and directions for future evaluation: The experience has several important limitations. First, it was conducted in a single women's prison and reflects one institutional context. Second, the intervention did not collect baseline or post-intervention measures of dengue knowledge, perceived risk, preventive behavior, or confidence in identifying warning signs. Third, no entomologic or environmental indicators were recorded, such as container counts, breeding-site observations, larval indices, or completion of corrective actions. Fourth, the estimated reach did not distinguish unique participants from repeated contacts and did not document exposure intensity. Fifth, the observations were made within routine practice and are susceptible to observer bias and selective recording. Finally, no formal participant feedback or qualitative interview was conducted, limiting the ability to assess how the women themselves interpreted the activity. A future evaluation could preserve the participatory character of the intervention while adding a small set of feasible indicators: attendance by activity; a brief anonymous pre-intervention and post-intervention knowledge instrument; participant feedback on clarity, relevance, and voluntariness; a checklist of potential breeding sites and reported corrective actions; fidelity records for peer messages; and follow-up documentation of suspected cases without implying causality. Where individual data are collected for research, prior ethics review and consent procedures appropriate to incarceration-related power asymmetries would be essential. Such measures would allow a future implementation to move from a process-oriented experience report toward a stronger assessment of feasibility, acceptability, knowledge change, and environmental action.

CONCLUSION

This theater-based microintervention was operationally feasible within one women's prison and met its planned process targets: six conversation circles, direct co-creation by 12 incarcerated women, participation of nine health monitors, one courtyard performance, and estimated direct or indirect reach of more than 150 women. The experience shifted the educational process from one-way transmission toward collective construction and peer circulation of dengue-prevention messages. Its main contribution is therefore implementation and engagement, not proof of effectiveness.The design does not permit conclusions about knowledge gain, behavior change, reduction of breeding sites, vector density, or dengue incidence. Theater should be treated as a complementary educational strategy embedded in broader vector-control, surveillance, environmental, and clinical actions. Future implementations should document participant voluntariness, unique reach, intervention fidelity, pre-intervention/post-intervention knowledge, participant feedback, and environmental indicators. With these safeguards and measures, prison primary care teams may use participatory theater to strengthen dialogue and health communication while preserving professional responsibility and avoiding the transfer of structural prevention duties to incarcerated women.

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ETHICS AND INSTITUTIONAL AUTHORIZATION

Research Ethics Committee review was not required for this service-based experience report. The manuscript uses only aggregated, non-identifiable implementation information, and institutional authorization for the activity and publication was obtained.

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CONFLICT OF INTEREST

The author declares no conflict of interest.

DATA AVAILABILITY

All aggregate information supporting the findings is presented in the manuscript. No individual-level research dataset was created.

REFERENCES

Brazil. (2009). Diretrizes nacionais para a prevenção e controle de epidemias de dengue. Brasília, DF: Ministério da Saúde. Available at: https://bvsms.saude.gov.br/bvs/ publicacoes/ diretrizes_nacionais_prevencao_controle_dengue.pdf

Brazil. (2013). Portaria no. 2.761, de 19 de novembro de 2013: Institui a Política Nacional de Educação Popular em Saúde no âmbito do Sistema Único de Saúde (PNEPS-SUS). Diário Oficial da União, 20 November 2013. Available at: https://bvsms.saude.gov.br/bvs/saudelegis/gm/2013/prt2761_19_11_2013.html

Brazil. (2014a). Portaria Interministerial no. 1, de 2 de janeiro de 2014: Institui a Política Nacional de Atenção Integral à Saúde das Pessoas Privadas de Liberdade no Sistema Prisional (PNAISP). Diário Oficial da União, 3 January 2014. Available at: https://bvsms.saude.gov.br/bvs/saudelegis/gm/2014/pri0001_02_01_2014.html

Brazil. (2014b). Portaria no. 482, de 1º de abril de 2014: Institui normas para a operacionalização da PNAISP. Diário Oficial da União, 2 April 2014. Available at: https://bvsms.saude.gov.br/bvs/saudelegis/gm/2014/prt0482_01_04_2014.html

Dias, Í.K.R., Martins, R.M.G., Sobreira, C.L.S., Rocha, R.M.G.S. and Lopes, M.S.V. (2022). Ações educativas de enfrentamento ao *Aedes aegypti*: revisão integrativa. *Ciência & Saúde Coletiva*, 27(1), 231-242. https://doi.org/10.1590/1413-81232022271.33312020

Edmondson, B.J. (2021). Tell me what you see: An arts-based health education program for youth. *Health Promotion Practice*, 22(1 Suppl), 27S-30S. https://doi.org/10.1177/1524839921996634

Flisch, T.M.P. (2017). Intersetorialidade, educação em saúde e dengue: múltiplos olhares do setor saúde e do setor educação. PhD thesis, Fundação Oswaldo Cruz, Instituto René Rachou, Belo Horizonte, Brazil. Available at: https://arca.fiocruz.br/ items/c222e7e5-1ecc-49fe-b36f-299edb65c4d2

Leal, M., Kerr, L., Mota, R.M.S., Pires Neto, R.J., Seal, D. and Kendall, C. (2022). Health of female prisoners in Brazil. *Ciência & Saúde Coletiva*, 27(12), 4521-4529. https://doi.org/10.1590/1413-812320222712.10222022

Llorente-Pérez, Y.J., Rodríguez-Acelas, A.L. and Cañon-Montañez, W. (2023). Educational interventions for the prevention and control of dengue in adults: an integrative review. *Enfermería Clínica (English Edition)*, 33(2), 157-166. https://doi.org/10.1016/j.enfcle.2022.10.005

Ogrinc, G., Davies, L., Goodman, D., Batalden, P., Davidoff, F. and Stevens, D. (2016). SQUIRE 2.0 (Standards for Quality Improvement Reporting Excellence): revised publication guidelines from a detailed consensus process. *BMJ Quality & Safety*, 25(12), 986-992. https://doi.org/10.1136/bmjqs-2015-004411

Pan American Health Organization. (2025). Epidemiological alert: Risk of dengue outbreaks due to increased circulation of DENV-3 in the Region of the Americas. Washington, DC: PAHO. Available at: https://www.paho.org/sites/default/files/2025-02/2025-feb-7-phe-epi-alert-dengue-final.pdf

Parent, S.N., Ehrlich, R., Baxter, V., Kannemeyer, N. and Yassi, A. (2017). Participatory theatre and tuberculosis: a feasibility study with South African health care workers. *International Journal of Tuberculosis and Lung Disease*, 21(2), 140-148. https://doi.org/10.5588/ijtld.16.0399

Rio de Janeiro Municipal Health Secretariat. (2026). Número de casos de dengue por mês, Áreas de Planejamento, Regiões Administrativas e bairros, Município do Rio de Janeiro - 2025. Rio de Janeiro: SMS-Rio. Available at: https://epirio.svs.rio.br/arquivos/paineis/arboviroses/Dengue_2025_mes.pdf

Schmidt, B.M., Abrams, A. and Tameris, M. (2016). Engaging adolescents in tuberculosis and clinical trial research through drama. *Trials*, 17, 177. https://doi.org/10.1186/s13063-016-1291-7

Topping, K.J. (2022). Peer education and peer counselling for health and well-being: a review of reviews. *International Journal of Environmental Research and Public Health*, 19(10), 6064. https://doi.org/10.3390/ijerph19106064

World Health Organization. (2025). Dengue. Geneva: World Health Organization. Available at: https://www.who.int/news-room/fact-sheets/detail/dengue-and-severe-dengue

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