Implementation of HIV/AIDS prevention policies: The study in Bali Province, Indonesia

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ABSTRACT

This paper presents an overview of the policies and efforts of the Provincial Government of Bali, Indonesia, to tackle the development of HIV/AIDS. This study considers the socio-cultural context and analyzes the factors that are most likely to influence its spread, the response of the community, and the local government’s efforts to form Provincial AIDS commission whose movement is supported by the village government and the community to suppress the spread of HIV/AIDS. The authors observe the micro factors that most determine this program, such as attitudes, behaviors, and desires of policy-making actors, stakeholders, implementing organizations, adequacy of human resources, financial funds, information, education, communication, advocacy, regional languages, the role of students, and field workers, and local culture in preventing the spread of HIV/AIDS. Therefore, this research does not focus on just one dimension in efforts to deal with this outbreak. Following the application of the public policy theory, all potential contributing elements must be addressed simultaneously. This requires a truly interdisciplinary and multisectoral approach that requires to be comprehended by policymakers in other provinces where the prevalence of HIV/AIDS is quite high. This effort also requires commitment and strong political will from levels of government.

KEYWORDS

local government policies; HIV/AIDS prevention; advocacy; communication; regional languages; the role of students; field workers; local culture

1. Introduction

Sexually transmitted diseases (STDs), Human Immunodeficiency Virus (HIV), and Acquired Immunodeficiency Syndrome (AIDS) continue to pose a threat to the world’s population. According
to data from the World Health Organization (WHO, 2023), in 2018, 37.9 million people were living with HIV, and the most sufferers were in Africa, with a total of 25.7 million people. Due to HIV/AIDS, 1.4 million people died in 2000 and it was counted 770,000 people died in 2018. According to the estimates of the Joint United Nations Program on HIV/AIDS (Ocran et al., 2022), Indonesia has the largest number of people living with HIV in Southeast Asia, namely around 540,000 people in 2021 (Khodayari-Zarnaq et al., 2021; UNAIDS, 2019).

In Indonesia, HIV/AIDS has been recognized as a national social health problem, and the President has established the Central AIDS Commission (CAC) through Decree No. 36 of 1994. CAC aims to carry out efforts to prevent and control AIDS. In Bali Province, CAC has proposed the formation of a Bali AIDS Commission (BAC). According to the Health Ministry, the development of HIV/AIDS cases has continued to increase drastically in the past five years as Bali Province is a world tourism area. The accumulation of HIV/AIDS cases during the COVID-19 pandemic is a cause for concerning and requiring serious strategies and management.

The data of Health Ministry indicates that the spread of HIV/AIDS in Bali is happening very quickly compared to 33 other provinces in Indonesia. The reasons include the high population growth rate due to urbanization and the visits of tourists from abroad facilitating the transmission and spread of HIV/AIDS. The Governor of Bali made a policy by establishing BAC based on Decree No. 544 of 1994 to overcome this problem. However, BAC did not run effectively because the organizational structure was unstable and did not perform well.

In January 2022, the Ministry of Health stated that the Province of Bali was in the top 10 with the most cases of HIV/AIDS. Bali occupied the sixth position with the most cases in Indonesia. Data on HIV/AIDS cases in Indonesia were Jakarta Province with 90,958 cases, East Java with 78,238 cases, West Java with 57,426 cases, Central Java with 47,417 cases, Papua with 45,638 cases, Bali with 28,376 cases, North Sumatra with 27,850 cases, Banten 15,167 cases, South Sulawesi 14,810 cases, and Riau Islands with 12,943 cases. HIV/AIDS case data in the Province of Bali are presented in Figure 1.

Figure 1. Comparison of HIV-AIDS cases in Bali and nationally in 2022.
The picture above is the latest data released by the Bali AIDS Commission. However, health experts explained that the actual number of people living with HIV/AIDS in Bali is an iceberg phenomenon, and this data may only be 10% of the actual data. Because people living with HIV/AIDS never report their illness, feel ashamed, and do not want others to know about it. Therefore, the Government and BAC need to re-collect data on people living with HIV/AIDS and invite them to come to the community health centers and hospitals.

In addition, to tackle the spread of HIV/AIDS, the Governor of Bali signed the Sanur Commitment Movement by all Governors, Regents, and Mayors. Among the contents of the Sanur Commitment is strengthening and empowering the role and function of BAC.

In its implementation, the efforts made by the Government and BAC Bali received support from the Central Government. The Province of Bali is considered capable of suppressing the transmission of HIV/AIDS. Bali won the award from the Ministry of Health in 2022. The Best Award Certificate was received by Mr. I. Wayan Widia, Head of the Provincial Disease Prevention and Control Service Bali Health Office, in Jakarta, on 31 January 2023 (Balitopnews, 2023).

2. Literature review

Some of the literature that raises the causes of increasing cases of HIV/AIDS and STDs report their association with low socioeconomic status. This is due to reports released by developing and underdeveloped countries (Haakenstad et al., 2019). However, data on the empirical relationship of SES with HIV/AIDS are mixed with other factors beyond control (Fang et al., 2008).

There are many reasons for the increasing cases of HIV/AIDS. Yang et al. (2005) investigated migrants working in eight occupational clusters in Beijing and Nanjing, China, to examine workplace association with HIV-related behaviors and perceptions. For sexually experienced women, those working in entertainment establishments or personal service (e.g., nightclubs, dancing halls, barbershops, beauty salons, and massage parlors) engaged in risky sexual practices twice as frequently as those working in non-entertainment establishments (e.g., restaurants, stalls, domestic service, and factories). In a study, Cao et al. (2022) suggested that AIDS patients should pay attention to the maintenance of oral health, and early initiation of highly active antiretroviral therapy (HAART) may be important for the development of oral lesions. He explained that in patients infected with HIV/AIDS, age, gender, marital status, income level, smoking behavior, and oral health affected periodontal clinical indicators; age and marital status correlate with dental clinical indicators; most have oral manifestations, especially candidiasis albicans, salivary gland disease, AIDS-associated periodontitis, and mouth ulcers.

In connection with government policies to tackle the spread of HIV/AIDS, a study in Iran conducted by Khodayari-Zarnaq et al. (2021) revealed the multidimensional nature of HIV/AIDS, namely that there are many stakeholders involved in HIV/AIDS control, active and potential in this field. However, there is no unified system to involve all stakeholders in HIV/AIDS policy-making. Therefore, an upstream entity is needed to coordinate and mobilize all stakeholders in managing and controlling HIV/AIDS—worker studies regarding coordination that does not work between institutions.

The Zambia study adopted a strategic communication policy and an HIV/AIDS implementation
policy. Governments rely on formal and informal channels to communicate testing and drug policy changes to all healthcare providers. Elaborating a National HIV/AIDS Action Strategy has resulted in little awareness of this policy by frontline providers. Stakeholder agreement using a top-down concept, limited training of health workers, and financing harms implementing changes to the test and treat policy for all (Zakumumpa et al., 2023). In contrast to Rwanda, the HIV self-test policy improvement (HIVST) program is considered successful because it is supported by stakeholders (Dzinamarira et al., 2020).

In Ghana, the government has a school-based Counseling on Sex Education (CSE) program which effectively prevents HIV among young people aged 10–24 years. Unfortunately, Ghana’s national sexual and reproductive health education policy does not have an overarching policy. This policy was identified as a factor that could influence the orientation of school-based health educators creating disharmony in sex education interventions and introducing sex education messages that have the potential to create narrow curricula and limit overall HIV/AIDS knowledge (Ocran et al., 2022). Eventually, this program was discontinued because it was deemed ineffectively. Based on the experiences of various countries in implementing policies to prevent the spread of HIV/AIDS, we can learn to take practical steps going forward by developing strategic plans that are supported by the government and society.

3. Methodology

This study uses qualitative methods supported by a phenomenological approach. Phenomenology can be defined as an approach to research that seeks to describe the essence of a phenomenon by exploring it from the perspective of those who have experienced it (Khan, 2018; Nigar, 2020). This method is supported through in-depth interviews by compiling a list of interviews (DeJonckheeere and Vaughn, 2019). Ishtiaq (2019) formulates various eligibility criteria for interview lists by considering the research objectives. To compile a list of interviews, the author explored literacy in various online media regarding the effectiveness of implementing HIV/AIDS policies and programs and government, NGO, and community partnerships to reduce the spread of HIV/AIDS. After compiling the list of interviews, the writer tested the list of interviews.

Furthermore, the researchers determined the informants who were directly involved and understood the topic of this research. Researchers can access these informants and identify participants during or after data collection. The selection of key informants was carried out using a purposive sampling technique (Etikan, 2016). The results of the interview list instrument are presented in the research results. Table 1 shows the number of informants interviewed.

4. Results

4.1. Adequacy of human resources

Adequacy of human resources related to competence, skills and personal abilities is important to overcome the spread of HIV/AIDS. Human resources are an essential requirement for performance in the rush skit and community health center. Community health center is the spearhead of health services and is at the grassroots level. In order to determine the adequacy of human resources, interviews were conducted as follows.
In order to overcome these obstacles, Mr. Anshori (BAC) initially prepared a strategic plan, as explained:

*We have developed a Strategy and Action Plan at the city, district, and village levels. The goal is that there is a standard procedure for carrying out AIDS prevention efforts in Bali. A strategic plan needs to be made with indicators and SOPs for handling HIV/AIDS specifically. Then, this plan was disseminated to BAC human relation and health extension workers.*

Regarding the readiness of human resources, Mr. Anshori explained:

*We have sufficient human resources in the office and field to socialize and implement HIV/AIDS prevention policies. At the village level, BAC Bali needs field extension workers and counselors. Therefore, additional village extension officers are needed for the extension program and outreach to the community to be adequately implemented. We involve students from various tertiary institutions as field workers who do not require to be paid; they actively provide case reports daily through the whats-up group. In the future, we hope that there will be an easy HIV/AIDS case application for data collection on PLHIV.*

Ms. Praesti of the Management Program for AIDS and Drug Concern Student Groups at the provincial level added:

*BAC has a lot of human resources, as well as capability and quality, but only a few officers understand standard operating procedures. In order to improve their performance, BAC will strengthen the capabilities of field extension workers. Currently, BAC has recruited one field
assistant from students and one HIV/AIDS counselor in each village. They actively report cases every day via the WhatsApp group.

In an interview with Ms. Ambara, the District Health Office, Division of Communicable Disease Prevention and Control, she explained:

*We have HIV/AIDS prevention experts, voluntary counseling and testing (VCT) service experts, and sexually transmitted infections primary care workers. Experts make it easier for us to refer to people living with HIV/AIDS.*

She suggested:

*We propose that the addition of several laboratories with complete facilities at the district level is urgently needed so that the process of handling HIV/AIDS cases can run well and quickly.*

Interviews were also conducted with community members infected with HIV/AIDS in the district. Ms. Yurike explained:

*HIV/AIDS service workers on standby at every health center and district hospital. We also see that there are health workers for VCT and Postmortem computed tomography (PMCT) services. We also always find extension workers who actively disseminate HIV/AIDS prevention to people’s homes. We consider all of this necessary for society because most of the people do not understand how infected people with HIV/AIDS transmit the diseases to others.*

### 4.2. Adequacy of financial funds

In order to tackle the spread of HIV/AIDS, an adequate budget is needed. The budget is an essential thing in the HIV/AIDS prevention program. An interview with Mr. Anshori (BAC) obtained the following information.

*In particular, the treatment of HIV/AIDS patients is different from diseases in general. The government has provided health funding assistance to purchase ambulances, vehicle maintenance costs, purchase medicines, produce IEC brochures, and socialize the prevention of HIV/AIDS to the public. The budget is IDR 1,395,861,500 (equivalent to US$ 95,000) per month. These funds are channeled to districts and cities. At the village level, additional funds are needed for local NGOs that work with BAC. We have submitted a budget to the Provincial Government and Central BAC so that HIV/AIDS cases can be handled earlier and more quickly.*

Head of the Provincial Level AIDS and Drug Concern Student Management Program, Ms. Praesti, added:

*Currently, we are improving the abilities, skills and expertise of field officers. In the future, additional funds will be needed to strengthen the implementation of the Socialization, and Information Education Communication (IEC) program.*

In an interview with Mr. Dharmayuda, Head of the Disease Control and Eradication Program Division of the Denpasar City Health Service, he explained:

*At the district and village levels (central health), additional funds are needed to procure medicines and medical devices—for example, reagents and ARVs, so that the health services for*
**PLHIV can be appropriately handled.**

Interviews were also conducted with community members infected with HIV/AIDS in the district. Ms. Yuni explained:

*The government has prepared drugs for the prevention of HIV/AIDS. For example, ARV drugs can be obtained at provincial, city, and district hospitals. However, the COVID-19 pandemic has hampered and obtaining medicine has become more complex. Most of the health funds is probably diverted to tackling the COVID-19 pandemic. By the end of COVID-19, the availability of ARV drugs has recovered and is easy to obtain.*

### 4.3. **The role of the implementing organization**

The success factor of a policy/program lies in the role of the implementing organization, as indicated by the structure, bureaucracy, norms, and patterns of relationships that occur (Ahmad et al., 2017). In the Province of Bali, patterns of community relations can be seen in norms, values, habits, and customs, which are symbols of the community always obeying the culture that has existed for generations (Basyir 2019; Gedela et al., 2020). Strong local culture has apparently helped the Balinese in accelerating the prevention of the spread of HIV/AIDS (Runiari et al., 2018).

In an interview with Mr. Anshori (BAC), he explained:

*The activities carried out so far have been organized. For example, HIV/AIDS outreach programs. Pregnant women coordinated with field counseling. This program is considered successful because of the cooperation of the field workers team with the pregnant women program. In addition, the handling and administration of drugs to sufferers of HIV/AIDS cases also exceeded the target. We collaborate with cross-sectors and communities, and it is going well. The Governor has instructed that efforts to tackle HIV/AIDS must be carried out comprehensively and BAC has a role in initiating and advocating for stakeholders and the community.*

In an interview with Ms. Praesti, Head of the AIDS Management Program and Drug Concern Student Group at the provincial level, she said:

*BAC has played the best role in which BAC always controls the performance of hospitals and health centers through coordination with the Health Office. BAC also controls staff and field extension workers every day. In addition, it encourages staff and field extension workers regularly, for example, by mingling with field extension workers at the desk hence, the community feels comfortable and excited.*

The results of an interview with Mr. Mantra, Director of the Bali Health Foundation who is an Activist for Harm Reduction, an NGO in Bali, is as follows:

*HIV/AIDS prevention programs have been carried out jointly. The Bali Health Foundation is a partner of BAC. We play a role as assistants and community educators about HIV/AIDS, and pregnant women. We are always involved in cross-sectoral meetings and BAC programs and evaluate programs in the field.*

In an interview with Mrs. Ambara from the Communicable Disease Prevention and Control Division, she explained:
We have a role in supporting logistics, ARV drugs, and service delivery to improve the quality of life for PLWHAs. We are members of BAC meetings and programs/activities, such as resource persons in seminars, webinars, and outreach at the village office.

4.4. Actor’s dispositions

Disposition is defined as policy actors’ attitude, behavior, and desire to implement the policy (Knoepfel et al., 2011). Disposition has an essential role in implementing HIV/AIDS policy and influences the success of the HIV/AIDS program (Handayani et al., 2021; McRobie et al., 2017).

In an interview with Mr. Anshori (BAC), the role of actors is explained as follows:

The provincial government always controls programs implemented by BAC. We must always pay attention to key populations and the general population and advocate, initiate, monitor, and evaluate every program that involves stakeholders. All stakeholders, such as health offices in provinces, cities, districts and hospitals, health centers, NGOs, student’s movements, village governments, and health educators, participate in efforts to prevent HIV/AIDS. All stakeholders have the same desire, attitude, and goals to play a role, and BAC unites their desires and needs to tackle HIV/AIDS problems.

In an interview with Ms. Indarti, Head of Denpasar City Health Office, she explained that:

The city government intends that HIV/AIDS in Denpasar and the province of Bali can be reduced. We have socialized it to traditional villages in all cities and districts in Bali. Prevention in the general population in the province of Bali has been carried out intensively because the Healthy Village program of the Ministry of Health supports it. Hence, all BACs in districts and cities have been formed and developed this program. We also coordinate with the Department of Culture and the Traditional Village Assembly which budgeted aid funds for this program.

Furthermore, the interview was conducted with Ms. Suwari from Paramacitta Spirit Foundation, Bali. She explained as follows:

We are HIV/AIDS prevention activists, hoping that our family and society will be free from HIV/AIDS. Consequently, during meetings with clients, we always provide health education counseling. There are many obstacles in the field for dealing with high-risk members of society. The example is injecting drug users (IDU), sex workers, and customers of sexual relations. BAC and Bali Health Foundation have coordinated and contributed regarding early detection and referred them to the center of health. Although we have advised, some of the sex workers and customers no matter what we say. We remain humble, and even though it is difficult, we must not give up trying to change people’s attitudes.

The Head of the Disease Control and Eradication Program Division of Denpasar City said:

Our service focuses on quantity and quality of life, and all PLWHA must routinely take ARV therapy. Treatment is generally recommended by doctors using antiretroviral therapy (ARV). This therapy consists of a combination of antiviral drugs for HIV infection, and treatment with ARV drugs is recommended for everyone with HIV/AIDS. We are currently developing a Policy to serve PLWHA or the Balinese people. The Health Office has a stock of ARVs distributed by the Ministry of Health for the next six months.
4.5. Communication factor

The implementation of HIV/AIDS control policies and programs is determined by communication factors (Suparmi et al., 2020). Communication must be delivered accurately and consistently. Communication failures hinder policy implementers from achieving success in the HIV/AIDS prevention programs (Djellouli and Quevedo-Gómez, 2015; Mehra et al., 2014).

In an interview with Mr. Anshori (BAC), he explained:

There are two strategies carried out by BAC, namely verbal and non-verbal communication. Verbal communication is done by visiting the people who live together HIV/AIDS, the general public, and meeting places in village offices, traditional villages and communities. BAC is here to provide information which are able to be comprehended, especially the impact of HIV/AIDS. While non-verbal communication activities are carried out through correspondence, brochures, leaflets, booklets and banners in local languages that are easier for the public to understand.

He continued his description:

For example, BAC invites and involves all stakeholders in commemorating the Archipelago AIDS Reflection Night and World AIDS Day. We have carried out outreach and communication on HIV/AIDS prevention through film screenings. For example, the film Nyiramang Layon has been socialized on social media and other mass media in collaboration with the Cadre of AIDS Care Journalists.

Mr. Mantra, the Reduction Director of the Bali Health Foundation, added the description:

Information, education, and communication activities are conducted for regional officials, students, and the community. The goal is for them to know the dangers of HIV/AIDS. In order to support the acceleration of information, we held socialization by distributing flyers at red lights, essential events, and the Province of Bali birthdays.

Mr. Dharmayuda from the Health Service, Communicable Disease Prevention and Control Division said:

The keys to successful HIV prevention and control management are ongoing activities, communication, and patient outreach. At each HIV/AIDS discussion meeting, information is inserted that strengthens efforts to understand HIV/AIDS. BAC’s active communication with field workers and public health centers is necessary to monitor the progress of each case; for example, reporting routinely the results of the implementation of field officers who contain service difficulties.

Furthermore, he added:

Considering the background of various levels of community awareness and participation, it is necessary to carry out regular communication and approaches so that the community is open to providing information about the importance of this matter. The success rate of HIV/AIDS prevention is highly dependent on information and communication intentions.

In an interview with Mr. Diana, Head of the BAC Media Program Management district, he said:
In our experience in the field, miscommunication sometimes occurs in carrying out obligations and duties. The solution is that in public communication, we must use language easily understood by the public accompanied by examples they understand every day.

5. Discussion

The spread of HIV/AIDS cases in Bali is concentrated in three districts involving: Denpasar Municipality, Badung, and Buleleng Regencies. The highest cases were found through injecting drugs in Denpasar. The average age of people living with HIV/AIDS in Denpasar ranges from 20 to 29 years with a total of 10,162 cases (37.9%); aged 30–39 years with a total of 9594 (33.6%) of the total cases (DetikBali, 2022).

This data shows that the young age group, especially between 20 and 39 years are vulnerable to the spread of HIV/AIDS in Bali. The steps taken by the Provincial Government and BAC to map the area are the first steps towards successfully reducing HIV/AIDS cases in the Province of Bali. Mapping this area makes it very easy for BAC to reach and handle the spread of people living with HIV/AIDS. Mapping area is one of the strategies included in the BAC strategic plan (Collins, 2019). These key populations are very important and able to reach all the necessary information by addressing a wide range of options (Stonbraker et al., 2018).

In accordance with the theoretical model of public policy implementation, in order for the implementation of public policy to be successful, at least five key factors must be found, namely the adequacy of human resources, the adequacy of final funds, the role of implementing organizations, actor dispositions, and communication (Finsterwalder et al., 2022). Other factors that support the five factors can be added, namely the involvement of field extension cadres, student’s involvement, the use of WhatsApp communication tools, an easy referral system, the availability of medicines, and especially the role of NGOs (Berenguera et al., 2011).

According to Melkote et al. (2014), the factors of information, education, and communication (IEC) are interesting and crucial in increasing the success of the spread of HIV/AIDS. Research on IEC has been carried out by the Department for International Development UK, the Global Fund, the Ministry of Health, and the National AIDS Commission of Burkina Faso, Ghana, and Senegal. They concluded that IEC in native languages required to be considered in planning HIV/AIDS related health communications (Batchelor et al., 2019). In addition, the role of the IEC helps this program’s success (Mahapatra, 2014).

Drawing lessons from studies in China which indicated the causes of behavior towards HIV/AIDS (Lai et al., 2020) and the failure of HIV/AIDS prevention policies (Francis, 2012), or studies in Iran reveal that there is no unified system to involve all stakeholders in the HIV/AIDS policymaking process (Khodayari-Zarnaq et al., 2021), and studies that generate little awareness of the policy by frontline providers (Simooya et al., 2023), or the government that failed to carry out comprehensive sex education outreach to young people (Keogh et al., 2018), the Provincial Government of Bali does not intend to repeat the same mistake. The Province of Bali is able to learn from many countries in Rwanda which were able to implement a policy to improve the HIV self-test program, and it was implemented successfully because it depended heavily on the involvement of relevant stakeholders (Dzinamarira et al., 2020).
Based on the experiences of many countries in implementing policies to combat the spread of HIV/AIDS, the Province of Bali can learn to create practical steps in the future by developing strategic plans and being supported by the government and the community.

The research conducted in the Province of Bali, Indonesia, communication from field extension workers who came to villagers’ homes and students at red lights and open fields, in markets, and leaflets, booklets, and banners in Balinese were considered more effective than the main language. Likewise, stakeholders who go down to the village hall and to the health center to advocate for the community (Koesbardiati et al., 2017), and a friendly approach to people with HIV/AIDS disease is also required (Mohammadi et al., 2021).

The adequacy of human resources is a major factor in the success of an HIV/AIDS program (Owan et al., 2022). Adequacy of human resources related to competence, skills, and personal abilities to tackle the spread of HIV/AIDS. Human resources are an essential requirement for performance in hospitals and health centers. Community health center is the spearhead of health services and is at the grassroots level (Kurniawan et al., 2017). Therefore, Bali government realizes that the success of the HIV/AIDS prevention program is not only due to strong institutions and abundant funds but coordination and involvement of all aspects of society from the top to the grassroots. Studies on coordination in the implementation of HIV/AIDS programs have been carried out by Khosla et al. (2016).

6. Conclusion

The success of HIV/AIDS prevention in the Province of Bali, Indonesia is caused by many factors. These include reforming the institutional system by establishing the Provincial AIDS Commission; inter-stakeholder coordination and cross-sector collaboration; regional mapping activities; involvement of NGOs; mobilization of students and field officers to accelerate understanding of the dangers of HIV/AIDS; adequacy and capacity of human resources and field workers; adequate funds, advocacy, and good communication and easily understood by the community; an easy referral system; monitoring the performance of field staff; and the use of WhatsApp to speed up the handling of PLHIV.

The most important activity in developing countries for government programs to be successful is to disseminate useful causes through communication, information, and education to grassroots communities. IEC activities are very useful because Bali is a world tourism area, and many grassroots people are illiterate or do not understand the impact of HIV/AIDS. Dissemination of IEC activities for HIV/AIDS through field counseling, university activities, and continuous support from public actors in the villages is an important aspect of the success of this program.

Data availability statement

Data will be made available on request.

Ethical issues

This study was approved by the Universitas Ngurah Rai, Denpasar, Bali Research Ethics Review Board.
Author contributions

Conceptualization, IMS and AAS; methodology, IMS; software, AAS; validation, IMS and AAS; formal analysis, AAS; investigation, IMS; resources, IMS; data curation, IMS and AAS; writing—original draft preparation, IMS and AAS; writing—review and editing, IMS and AAS; visualization, AAS; supervision, IMS and AAS; project administration, IMS and AAS; funding acquisition, IMS. All authors have read and agreed to the published version of the manuscript.

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Conflict of interest

The authors declare no competing interests.

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