

# Do levels of mental health problems change after involvement in a psychosocial programme for adolescents with HIV in Botswana? A one-year prospective cohort study

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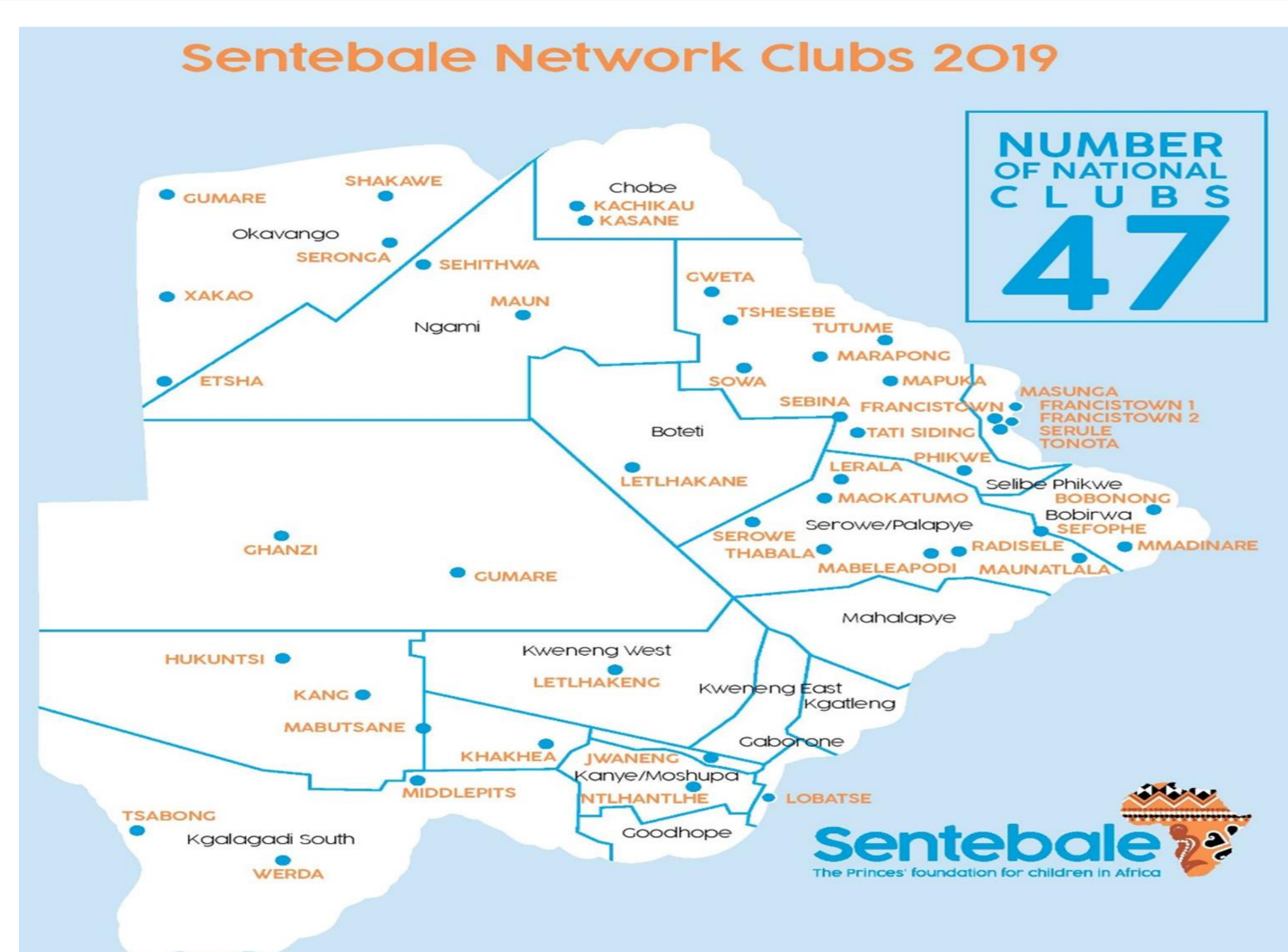
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## Background

There are approximately two million young people between 10 and 19 years, living with HIV globally (1). Many of this population have been living with HIV since birth. Botswana has an estimated HIV prevalence of 6.6% in 15-19 year olds, and an estimated adult prevalence of 20.7% (2). Psychological difficulties in people living with HIV in Botswana are common (3), with adolescents/young adults with perinatally acquired HIV (PAH) facing a number of challenges. Offering psychosocial interventions for young people living with HIV has the potential for enhancing well-being, which in turn may influence other outcomes such as improved ART adherence. There are a small number of quantitative studies evaluating interventions to enhance antiretroviral adherence in young people with HIV (4) but few quantitative evaluations of psychosocial interventions to enhance well-being in this population (5). Two psychosocial interventions developed to address their needs are residential interventions (camps) and support groups (clubs). This study used a single group within-participant prospective cohort design with two time points (baseline and one year follow-up). It aimed to investigate whether a package of psychosocial support (camps and clubs) offered to young people living with HIV in Botswana by the Sentebale organisation was associated with reductions in mental health problems (measured by the Pediatric Symptom Checklist: PSC) after enrolling in the programme to one-year follow-up.

## Methods

Participants were aged 10 to 19 years, living with HIV and aware of HIV-positive status, and attending clubs with attendance at no more than three clubs before study enrolment and no previous camp attendance. Recruitment involved 14 mainly rural sites from 47 sites across Botswana operated by Sentebale. Baseline recruitment took place between March and July 2019. Follow-up recruitment took place between March and July 2020. The intervention consisted of five day residential interventions (camps) for the young people, and community based support (clubs) for both the young people and caregivers. Measures were administered in an interview and recorded on a tablet. At baseline, these interviews were carried out face to face. In the follow-up, face to face interviews were carried out for the first two of the 14 sites. Due to Covid-19 restrictions, interviews from the subsequent 12 sites were conducted by phone. Systematic sampling was used, with all young people recently or newly referred to the programme eligible. Data were analysed using multilevel modelling.



## Results

249 participants were recruited (127 female, median age 16) and 176 were retained one year later. 59% of participants at baseline had both parents alive, with 92% virally suppressed (n=197). The majority of the sample (58%) did not attend a camp over the study period. The majority (201/249: 81%) attended at least one club. The median number of clubs attended over the study period was three. At baseline, 25% of the sample scored at or above the PSC cut-off of nine (63/249). At follow-up, the proportion scoring at or above this level was 20% (35/176). In multivariable analysis, there were reductions in PSC scores from baseline to follow-up (p=0.01). Higher follow-up PSC scores were also associated with male gender (p=0.04) and higher levels of programme engagement (p=0.04).

## Conclusions

The majority of the young people did not show evidence of mental health problems, although a significant minority did at both baseline (25%) and follow-up (20%). There was a reduction in levels of mental health problems, independent of sex, age, age of paediatric disclosure/naming, and the level of programme engagement. Given the absence of a control group, practice implications must be expressed cautiously. However, this study does suggest that levels of mental health difficulties have the potential to reduce over time in adolescents with HIV exposed to psychosocial interventions. This justifies a greater emphasis on mental health and well-being than currently exists in national HIV strategic frameworks (34),

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