The Caribbean Healthy Lifestyles Program: Reducing Risk and Increasing Protective Factors in Caribbean Youth

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Objective: To identify changes in attitudes or actions associated with health as a result of youth participation in the Caribbean Healthy Lifestyles Project (CHLP), a project that uses sport as a catalyst for healthy lifestyle development in youth.

Methods: Results of a survey of 62 participants (40 females, 22 males), aged 13 to 20, from seven different countries of the Caribbean community participating in the CHLP, were analyzed. Participants rated changes due to the CHLP in nineteen different lifestyle variables targeted over the course of the program on a 1 (made it much worse) through 3 (did not affect it) to 5 (improved it a lot) Likert-scale.

Results: All lifestyle variables showed positive change (3.80 to 4.61). The greatest improvement was reported for ability to communicate (4.61), followed by self-esteem (4. 58), ability to set goals (4.56), and teamwork (4.54). No statistical differences were found between males and females on any of the nineteen factors ($p = 0.05$).

Conclusion: Initial results indicate the positive effects of participation in CHLP on the health of Caribbean youth (e.g. reduction of health risk, increase of protective factors).

KEY WORDS:
Sport development
Lifestyle factors
Health compromising behaviors

Caribbean youth report they generally consider themselves to be healthy and happy (1) However, their environment presents many factors that have the potential to initiate health-compromising behaviours and to disrupt their positive development leading to increased economic costs and poor adult outcomes (2). Health-compromising behaviours, many of which were begun before the age of 13 years, were reported for Caribbean children by Halcon et al. (1). They stated nearly one-half of all males and one-quarter of females reported having had intercourse. Early sexual debut is known to predispose young people to early pregnancy, HIV/AIDS, and other sexually transmitted infections. One in five females and two in five males reported violent behavior. Blum and Ireland reported one-fifth of students had carried a weapon to school in the 30 days prior to the survey, and nearly as many had been in a fight using weapons. Gang violence is high with 20% of male students and 12% of female students at one point having belonged to a gang (3). Soyibo and Lee reported 78.5% of the Jamaican in their study had witnessed violence in their communities (4). Substance abuse is also on the rise. In their school-attending Jamaican adolescents, Soyibo and Lee reported rates of marijuana use at 10.2%, cocaine use at 2.2% and heroin use at 1/13% with alcohol use at 50.2% (5). Economic losses to Caribbean society from health-compromising behaviors such as teen pregnancy, crime, school leaving, and HIV/AIDS reach into the billions of dollars

considering both direct expenditures and loss of productivity. In St. Lucia youth crime and violence generates more than US$3 million in lost benefits to society and US$7.7 million in lost benefits to private individuals annually (2). On the other hand, if provided with the right tools, education, empowerment, and a supportive environment youth can play an important role in national development.

As elsewhere, Caribbean youth are the product of their environment. This environment contains both risk and protective factors. Risk factors are factors that increase the likelihood of youth experiencing negative outcomes while protective factors counterbalance the risk factors. Some factors, for example family, can be either risk factor or protective factor. Family acts as a protective factor if there is family connectedness, appropriate levels of parental discipline, moral guidance, protection from danger in the adult world, and economic support (6). While parental displays of negative behaviors such as substance abuse and violence; physical, sexual and emotional abuse by family members; and the absence of parental guidance and support are risk factors. School connectedness has been reported as highly protective while abuse and poverty have been identified as risk factors. Rage was identified as the strongest risk factor. Blum and Ireland found that risk and protective factors are cumulative, that females were more responsive to both risk and protective factors, and that increase in protective factors is associated with greater change in unhealthy behaviors than decrease in risk factors (2).

Sport has long been recognized for its capacity to offer enjoyment and increase life satisfaction to those who participate (9). The intrinsic value of sport to individuals' intellectual, emotional, social, physical, and spiritual development has also been well established (8). The United Nations (UN) recognizes the power of sport for the development of individuals and nations and named 2005 as the International year of Physical Education and Sport. The UN encourages all nations to recognize the power of sport for change and to incorporate sport in their development strategies (10). Thus sport has the potential to positively influence the lives of Caribbean youth in three ways: by offering them a positive, enjoyable outlet (environment) for their free time; through sports contribution to youth's holistic development; and youth connectedness to sport programs (if they are positive and constructive) could act as a protective factor much the same way as family, community, and school connectedness.

The Caribbean Youth Report produced by the World Bank in acknowledged that many youth programs already exist but little is known about their effectiveness (2). The Caribbean Healthy Lifestyles Project (CHLP), whose slogan is "Your Life, Your Health, Make it Right" is a community-based development through sport initiative of the Organization of Caribbean Administrators of Sport and Physical Education (OCASPE) and the Caribbean Netball Association (CAN) supported and funded by Commonwealth Games Canada (CGC) and the Canadian International Development Agency (CIDA) (7). It began in 2000 and aims to combine sports with personal development to instill the value of maintaining a healthy lifestyle, along with fostering leadership capacity among youth. It is a "for youth by youth" initiative involving youth in the planning and delivery of their own wellness education. The CHLP's objectives are:

1. to empower Caribbean youth to maximize their leadership potential;
2. to provide an opportunity for youth to have an enjoyable and positive recreational experience, while increasing their comfort level in physical activity environments;

3. to increase the awareness of youth of the benefits of regular physical activity and development through sport;
4. to provide a forum for discussion on related health issues, and to increase their knowledge of selected topics;
5. to develop team spirit and fair play among youth;
6. to enhance self-esteem, self-confidence, and self-efficacy of young sports persons through involvement in physical activity;
7. to provide a supportive forum for youths to voice their opinions and ideas and encourage their participation in program planning and decision making; and
8. to create and develop relationships with adult Big Sisters/Brothers and youth Big Sisters/Brothers.

The CHLP has expanded over the past seven years to include both males and females through a number of different sports and includes more than 1000 youth throughout the Caribbean.

This research was initiated in response to the recognized need to evaluate community-based development through sport programs. The purpose of this project was to assess the effectiveness of CHLP, a development through sport program, at meeting its objectives with respect to creating positive change in the lifestyles of Caribbean youth.

Methods

Participants and Procedures

Sixty-two participants completed a questionnaire inquiring about the effect of CHLP on 19 lifestyle factors targeted over the course of the program. All CHLP participants completed the questionnaire in the same location under supervision. Participants were 22 males and 40 females ranging in age from 13 to 20 with a mean age of 16.3 (SD = 1.53) and were currently in school. The participants were from seven different countries of the Caribbean community: Anguilla (n = 11), Antigua (n = 6), Barbados (n = 8), Dominica (n = 6), Grenada (n = 20), Nevis (n = 7), and St. Lucia (n = 4). Furthermore, participants differed in duration of participation in the CHLP. While some had been involved for only a couple of months, others had been part of the program for multiple years. Therefore, participants have been divided into three groups: involvement under three months (n = 18), involvement for 3 to 12 months (n = 19), and involvement for more than 12 months (n = 25).

Consent and Confidentiality

Passive consent was used in each country consistent with the protocol for research used by Ministries of Education within the region. No personal identifiers were used. Completed surveys were collected, sealed and delivered by the country coordinator to the regional coordinator and then to the principal researchers. Refusal to participate was negligible.

Measurement and analysis

The CHLP Participant Questionnaire was designed specifically for this study in cooperation with CHLP leaders from the Caribbean. Questions were based directly on the lifestyle factor modules dealt with in the CHLP manual to ensure content validity. The completed questionnaire was distributed to CHLP leaders in each country for review. Changes were implemented and the questionnaire was sent for final review before use. For every lifestyle factor participants answered to the following statement: “For each

lifestyle factor below, circle the number that best describes the change, if any, that CHLP has made in your life". Responses were in the form of rated changes due to the CHLP on a 1 ("made it much worse") through 3 ("did not affect it") to 5 ("improved it a lot") Likert-scale. Results are presented as mean scores, along with standard deviations (table 1).

An independent t-test was performed to analyze any effect of gender differences on any of the scores of the 19 lifestyle factors. Furthermore, a simple ANOVA was conducted to analyze any differences on duration of participation in CHLP on any of the scores of the 19 lifestyle factors. It was anticipated that participants in the three different groups might be influenced to different degrees by the program, due to differences in involvement duration.

Results

Change in lifestyle was measured using a 5-point Likert-scale, with 3 representing a neutral response ("did not affect it"). All lifestyle variables showed positive change, 3.80 to 4.61. (table 1). The greatest improvement was reported for ability to communicate (4.61), followed by self-esteem (4. 58), ability to set goals (4.56), and teamwork (4.54).

Table 1
Lifestyle factors targeted in the CHLP

Lifestyle factor	**Mean**	**SD**
Overall health	3.90	.72
Nutrition	3.80	.71
Physical activity	4.17	.74
Use of leisure time	4.30	.78
Satisfaction with life	4.18	.85
Self esteem	4.58	.64
Body image	4.20	.77
Ability to set short-term goals	4.55	.64
Ability to set long-term goals	4.56	.62
Ability to achieve goals	4.45	.59
Ability to make good decisions	4.44	.69
Ability to motivate others	4.54	.59
Self discipline	4.47	.69
Teamwork	4.54	.62
Ability to communicate	4.61	.59
Leadership ability	4.44	.72
Decisions regarding recreational drug use	4.35	.80
Decisions regarding use of drugs in sport	4.38	.83
Decisions regarding responsible sexual behavior	4.38	.88

Note: Means represent scores on a 5-point Likert Scale.

It was anticipated that individual differences could have an effect on potential lifestyle changes. Girls and boys could respond in a different manner to the CHLP and experience different effects in their daily lives. However, no significant differences were found between males and females on any of the 19 factors ($p > 0.05$). Furthermore, it is plausible that the duration of involvement could have affected the potential influence on the lifestyle of the participants. However, no significant differences were found between

any of the three groups divided by duration of involvement in CHLP on any of the 19 factors ($p > 0.05$).

Discussion and Conclusion

Results show that youth participants indicate CHLP, a development through sport program, has made positive changes in all targeted lifestyle factors. CHLP lifestyle factors such as positive self esteem and ability to communicate, as well as other factors such as positive body image, ability to set goals, positive use of leisure time, and leadership have been associated with positive behavior in other youth populations (8). Participants indicated that the program also made a positive difference to health-compromising behaviours directly, such as decisions regarding drug use, and responsible sexual behaviour.

The results did not support the findings of Blum and Ireland (3) in that there were no significant differences between changes in males and females. However, this research focused on individual lifestyle factors and did not look at exactly the same constructs of risk and protective factors identified by Blum and Ireland. Furthermore, the fact that time of involvement in the program did not make a significant difference to the degree of change in lifestyle factors could indicate that the measurement encompassed various stages of change (11). People who have been in the program under three months may be expressing only be in the contemplation or preparation phase while people who have been in the program for over a year are more likely to be in the maintenance phase. It would be beneficial, in future, to have participants identify their stage of change. Connectedness with the CHLP should also be measured as CHLP not only promotes positive changes in lifestyle factors but provides a positive environment for participants which could be considered a protective factor in itself. Results of this study should be viewed with care as baseline data wasn't available to allow direct measurement of changes in lifestyle factors and there were differences in lengths of time youth were involved in the program

In conclusion, the present analysis confirms that in the opinion of the participants the CHLP, a development through sport-program, has a positive effect on targeted lifestyle factors. A follow up study with parents, teachers, and significant others to compare their observation of attitude or behavior changes with participants' is recommended. It is strongly advised that organizations designing youth programs in the future gather baseline data before implementation of programs. It is also recommended that program connectedness is considered and measured as a protective factor for youth.

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