Recreation for children on social assistance, 4–17 years old, pays for itself the same year

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ABSTRACT

A randomized control trial completed in the Hamilton-Wentworth and Halton regions of Ontario, Canada, was created to assess the effects and expense of age-appropriate provider-initiated and subsidized versus self-directed and self-financed methods of recreation. Upon completion, this study proved that the annual per-person expenditure for the subsidized, quality recreation paid for itself by children’s lower use of healthcare and social services. The children within the subsidized recreation group had lower use of physician, physiotherapy, probation, children’s aid society, social work, psychologist and services in comparison with those in the non-subsidized group. The subsidized group also proved to be beneficial for the parents as well. The use of health and social services, by the parents in the subsidized group, was also decreased in comparison with those of the self-financed group. This group also proved to have improvement of the global socioeconomic status, with a 10% greater exit from the social assistance program within 1 year.

Keywords cost, single parents, social assistance, subsidized recreation

Background

The National Longitudinal Survey of Children and Youth (NLSCY)1 revealed two significant findings: 20% of children aged 4–11 years have one or more emotional and behavioral problems, and approximately one of every six children lives in a single-parent, mother-headed household. The prevalence of childhood emotional and behavioral problems2 is significantly associated with poverty and single parents.

There is a need to implement programs for those children who are considered high risk. Clinical services alone cannot reduce the suffering these children are forced to deal with.1 But the overall effectiveness of such programs would need to be assessed. Such was the purpose of this study, which focuses on the effectiveness of proactive age-appropriate subsidized recreation in children aged 4–17 years.

Extracurricular activity has both short- and long-term outcomes including social competence, language development, play development, self-regulation, compliance and a decrease in problems with school.3–6 Those children who are found to be at risk because of poverty and poor home environment are considered twice as at risk, because they tend to be placed in poor environments.5–6

Recreational activities have benefits, because they are associated with healthy lifestyle activities, physical fitness, good self-esteem, involved parents or guardians, desirable peer relationships, increased cognitive function and a decrease in boredom, all symptoms of which are commonly associated with deviance.7

Most of the evidence on the benefits of recreation is usually found in comparative descriptions given by volunteers of convenient samples. The limitations to such studies include problems with sampling, problems with representative samples, inadequate use of control groups and inadequate analysis that fails to adjust for confounding effects.

There is promising evidence on the effectiveness of quality and subsidized recreation.7–11 Additional cost-effective
Two programs or more per week each year were selected based on the preferences of the parent and child. Program attendance was counted and priced for this component of the interventions. Children of general welfare recipients on the self-directed aspect of the trial received no additional provider-initiated or financed recreation/childcare services. These families were free to enroll in any recreation activity of their choice, and they assumed the cost. The rates at which parents engaged in self-directed services or programs for themselves or their children were measured.

Adult recipients of social assistance were described in terms of information gathered on the income assistance application form including gender, race, family constellation and size, first language, education, employment history, prior welfare applications, employability status and mood.

The data gathered about the children’s attendance in recreation activities are a measure of compliance and dose of intervention and a measure of additional resources consumed by the participants in the trial. The annual frequency of using health, recreation and social services was multiplied by the dollar value of the resource. The total dollar amounts of annual resources consumed per child and per parent were compared between the different groups of the trial.

The primary measures of effect were childhood psychiatric disorder and competence at baseline and follow-up. The Survey Diagnostic Instrument of the Ontario Child Health Study was developed from the Achenbach and Edelbrock Child Behavior Checklist, which provided a basic pool of items to assess childhood psychiatric disorders including conduct disorders, hyperactivity and emotional disorders in youth 4 years of age and older. Diagnostic and Statistical Manual of Mental Disorders (DSM-III) criteria guided the selection of items for each scale. Checklist items applicable to a particular disorder or competence are grouped to create a scale. Each item is scored accordingly, 0 (never), 1 (sometimes), 2 (often), indicating how often the behavior is true of the child. Children in each group must have a score below a threshold to qualify as not having a disorder.

The total child competence score is the sum of three scale scores: activities (sports, hobbies and chores), social (number of friends and contact with friends) and academic (performance in all areas of academics). The competence scales of children aged 4 and 5 years were not measured, because these children are not in formal academic settings. Therefore, the number of competence scores was lower than the total number of children behavior checklists. The childhood competence scale was thought to be more discriminat-
There were also other significant secondary effects of recreation. Secondary effects included positive changes in parent mood, positive parent social adjustment and decreased expenditures for the use of health and social services.

Savings were defined as expenditures averted because of a reduced use of social or therapeutic services in the previous 12 months. Reductions in the self-reported length of time on assistance and family benefits between groups, multiplied by the dollar value of the benefit (dependent on the family constellation size), equaled the dollars saved because of the intervention.

The Health and Social Service Utilization Inventory is used to tally the frequency of using all types of health and social services by all members of the family. The 2-week frequency is annualized and multiplied by the dollar value of the service and summed as a per-family dollar measure of utilization compared between the two groups.

**Results**

The analysis of this 2-year follow-up study proceeded as follows. Of the total number of families at baseline (n = 765) randomized to receive proactive subsidized recreation services or not to, 361 families were retained and 404 families dropped out. These families were compared to make assessments of the representativeness within the respondent groups on study variables. Higher retention of families and children belonged to the group who received the proactive subsidized recreation in comparison with those who did not.

The participant parents (n = 361) were similar to the dropout parents (n = 404) in family size; 54.6% of these families had two or more children and 60.8% of the families had children over the age of 6 years living within the home; 52.9% had prior use of social assistance; 28.0% were never married, and of those who were married, 68.4% were either separated or divorced. Other areas in which the participants and dropouts were similar included the following: 93.9% of the families were English speaking, 85.3% were Canadian in ethnicity, 68.2% believe in the Christian faith, 98.1% involved female parents as the participants, 15.8% had poor health, 21.8% of the parents worried at least half of the time, 29.2% reported pain or physical discomfort that limited their activity level, 38.8% had between two and three health conditions and 60.4% of the parent participants had two or more mental problems. Participants who were retained were slightly older, were higher users of counseling services, had higher expenditures on community health and social services (not including hospital expenditures) and received higher government cash transfers. The parental participants who were retained had greater needs. This group also used more government entitled services. The more disadvantaged parent population were retained throughout the study.

The loss of children did not affect the representation of the comparable group of children remaining at the 2-year follow-up. The comparison at baseline between parents of study groups showed similarities in age, education, gender, number of children, marital status, job activities and whether they had a health problem or not, perceived health status and use of medication, parental coping style, social adjustment, source of income and no difference in child behavior problems at baseline. There were 336 children with baseline and follow-up checklists, participating in the 2-year follow-up and who were representative of the 775 children who were originally sampled with a behavior problem at baseline.

Annual per-person expenditure (both government and private) for subsidized recreation and children’s use of health and social services was statistically lower ($1638 per annum) in comparison with expenditure for those who were in the self-financed group ($3097 per annum). Subsidized recreation services had lower use of psychologist services (t = –2.45, P = 0.01), family counselor services (t = –2.38, P = 0.02) and naturopathic services (t = –1.99, P = 0.05) yet were higher users of the recreation services (t = 2.48, P = 0.01) in comparison with those who were not receiving the subsidy. The recreation intervention engaged 73.8–78.8% of children, with the majority of children receiving one or two programs during each of the 2 years.

There was no statistical difference in the proportion (11.2–16%) of children whose behavior improved in both subsidized and self-financed recreation groups. Two years after receiving subsidized recreation services, the children’s average activity was statistically but not clinically higher when compared with the children who did not receive subsidized recreation (6.4 versus 5.8 activities per child, t = 2.67, P = 0.01). There was no statistical difference between the two groups in the children’s social or school competence. Children in the self-financed recreation group were nevertheless highly involved in activities, and this may explain why the groups remained equivalent in their degree of behavior improvement and the level of competence.

After including the full cost of recreation services (to account for the subsidy provided), children within the subsidized recreation group’s use of health and social services ($2143 a year per child) were compared with the annual expenditures for children’s use of all health and social services when their recreation was not subsidized ($2313 a year per child). The detailed information about the cost is summarized in Table 1. A greater use of recreation services (t = 9.94, P = 0.001) paid for itself by a decreased use of specialist services (t = –2.18, P = 0.03), social workers (t = –1.83, P = 0.07),

**Table 1**

<table>
<thead>
<tr>
<th>Service Type</th>
<th>Subsidized group</th>
<th>Self-financed group</th>
<th>t-value</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recreation services</td>
<td>6.4</td>
<td>5.8</td>
<td>2.67</td>
<td>0.01</td>
</tr>
<tr>
<td>Psychologist services</td>
<td>2.4</td>
<td>1.98</td>
<td>1.99</td>
<td>0.05</td>
</tr>
<tr>
<td>Family counselor services</td>
<td>2.38</td>
<td>2.32</td>
<td>2.38</td>
<td>0.02</td>
</tr>
<tr>
<td>Naturopathic services</td>
<td>2.48</td>
<td>2.45</td>
<td>2.48</td>
<td>0.01</td>
</tr>
</tbody>
</table>
day care services ($t = -2.67, P = 0.01$), other providers ($t = -2.21, P = 0.03$) and heart monitoring ($t = -2.30, P = 0.02$).

In addition, these savings paid for the family counselor services ($t = 1.96, P = 0.05$) and subsidized childcare services ($t = 1.94, P = 0.05$) by those enrolled in proactive, subsidized recreation.

A larger proportion of parents whose children received proactive subsidized recreation services no longer needed...
childcare (31.8 versus 18.6%), counseling services (30.6 versus 21.3%) or food bank services (23.1 versus 14.4%).

The parents of those children received the subsidized recreation endorsed and improved economic adjustment situation ($t = 2.01, P < 0.05) associated with their children’s receipt of subsidized recreation, greater child support or alimony. Parents whose children received recreation also had fewer direct per-parent dollars used on health and social services after 2 years ($1570 versus $2592), where $t = –1.75, P = 0.08 despite their higher use of other services such as psychiatry ($t = 1.97, P < 0.05) and school counselors ($t = 2.08, P = 0.04).

Conclusions
In summary, 47% of the families were retained in the study’s 2-year follow-up. The single parents (98.1% females) in the follow-up were recipients of income benefits and other cash transfers for longer amounts of time, were higher users of children’s aid, had poorer work and social adjustments and suffered from more general anxiety disorders.

Forty-three percent of children aged 4–17 years were retained in the 2-year follow-up. Of these children, 23.1% endorsed some type of behavior problem, and this was statistically similar to the 18% of children with disorders who had dropped out.

Despite the higher dropout rate in the self-financed recreation group, parents and children in both groups remained similar in age, education, number of children per household, health status, mood and anxiety disorders, coping style, social adjustment per parent to direct expenditures for use of health and social services (21–26%) and per-child direct expenditures for use of health and social services.

Children in both groups of the trial were engaged in a number of recreation activities. Subsidizing and proactively arranging for these services did make a difference in the type of quality activity most associated with childhood competence. Subanalysis indicated that children with any disorder achieve the same level of competence as children without disorder if offered proactive subsidized recreation services.

Subsidizing recreation also had a positive impact on improving the health, economic and social adjustment of the parents. Subsidized parents also reported having more money to take care of their financial needs. After including the cost of recreation services for both the subsidized group and the self-financed group, children of all ages receiving proactive subsidized recreation services in a system of national health insurance expended, after 2 years, equivalent dollars for the total direct use of other health and social services ($2143 per year) compared with annual expenditures for the use of other health and social services when their recreation was not subsidized ($2313 per year). Additionally, on average, parents of children in the subsidized recreation group expended fewer dollars for their personal use of health and social services ($1570 versus $2592 per parent per annum) compared with those of the parents of children in the self-financed group.

Subsidized proactive recreation services were more effective than the self-financed, self-directed recreation services for children with a behavioral disorder. In a system of national health insurance, age-appropriate quality and subsidized recreation paid for itself and were associated with a decreased use of expensive health and social services.

In reality, in a system of national health insurance, it costs society more money immediately and in the future when it fails to invest in the disadvantaged sectors of society. Structural changes in society have made recreation necessary. This is increasingly important for children who suffer from behavioral disorders. The best outcomes can be achieved for parents and children on social assistance when society pays for quality recreation.

References


