Abstract

Introduction  Sri Lankan street children live in insecure and disadvantaged environments and have disrupted and poorly functioning families resulting in their poor socialisation. In this backdrop they are at high risk of adopting delinquent and antisocial behaviour and becoming victims of abuse. Despite recognition of this as a social problem, an in-depth exploration of their behaviour and its correlates has not been attempted.

Objectives  To describe risk behaviour among street children in Colombo city and the determinants of such behaviour.

Methods  A cross sectional qualitative study in Colombo Fort, Pettah, Slave Island, and Maradana areas was conducted using focus group discussions (FGDs) with street children and semi-structured interviews (SSIs) with street children and key informants in their environment. Data generated were used to profile 283 children identified through referral sampling. An observation study was conducted to validate data generated through FGDs and SSIs. Semi-structured questionnaires, a moderator guide, an interviewer-administered questionnaire, and an observational checklist were used for SSIs, FGDs, profiling, and observational study, respectively.

Results  Majority of street children were boys and were aged 14 years or less. Nearly 18% lived alone without a guardian. Two thirds had never enrolled in a school. Many children were used for begging, neglecting their health vulnerabilities. Occupational risk behaviour included heavy manual labour, transportation and sale of illicit alcohol and narcotics, robbing/pick-pocketing, commercial sex work, and pimping. Recreational risk behaviour included abuse of alcohol/narcotics, smoking, sexual promiscuity, and patronising commercial sex workers.

Conclusions  Increased awareness and strategies are required to minimise threats to street children and society.

Risk behaviour of street children in Colombo

B C V Senaratna¹,  B V N Wijewardana²

(Index words: street children, health, risk behaviour, Sri Lanka)

Departments of ¹Community Medicine and ²Criminology University of Sri Jayewardenepura, Sri Lanka.

Correspondence: BCVS, e-mail: <chamaravs@yahoo.com>. Received 5 March and revised version accepted 19 May 2012. Competing interests: none declared.
Introduction

The global population of street children has been variously estimated to range from tens of millions to 100 million with numbers rising daily and a large proportion living in South Asia [1-3]. In 2006, the estimated number of street children in Sri Lanka was 15,000 [4]. Majority of them live in the Colombo city, which is the former capital and a busy commercial hub, and fulfils environmental requirements for their sustenance.

Street children are considered a social problem [4]. In addition to obtaining provision from parents or guardians, they also earn their own income by legal as well as socially unacceptable and/or illegal means [5]. In the backdrop of the insecure and disadvantaged environments they live in, these children are at high risk of adopting delinquent behaviour and becoming victims of abuse [4-7]. Experiencing deviant behaviour in their environment and lack of normally functioning families results in their poor socialisation [4, 5].

Street children worldwide adopt a wide range of risk behaviour, commonest of which include risky sexual practices, alcohol and substance abuse, and violence [8-14]. Extreme poverty, lack of appropriate care by adults, been victims of violence, and substance abuse have been repeatedly shown to be common determinants of delinquent and anti-social behaviour of street children [2, 4, 8]. Nevertheless, street children in different regions and countries have unique behaviour patterns and determinants shaped by distinctive socio-cultural and economic environments in their respective societies [14-15]. However, in-depth explorations of risk behaviour of Sri Lankan street children and analysis of determinants of such behaviour are scarce [4, 16].

Recognising street children as a social problem, law-enforcement authorities of Sri Lanka continue to take punitive actions against delinquent behaviour of these children [4, 16]. Unfortunately, such litigations do not act as deterrents [2, 4, 16]. In order to protect street children as well as society from any harm originating from such delinquent and anti-social behaviour, an in-depth understanding of such behaviour and their determinants are imperative. We conducted this study to describe risk behaviour and determinants of such risk behaviour among street children in Colombo city.

Methods

We carried out this qualitative, cross-sectional study (in three phases) in Colombo Fort, Pettah, Slave Island and Maradana areas of Colombo City. For purposes of this research, we defined street children as children living on street most of time regardless of whether they still maintained some contact with their families or not [10].

In Phase I, we conducted twenty semi-structured interviews (SSIs) with key informants (KIs – including parents/guardians of street children, street vendors/ persons working in boutiques in areas frequented by street children, and social workers/researchers who have working experience regarding street children). They were identified through prior knowledge.

In Phase II, we recruited street children for research using referral sampling. Focus group discussions (FGDs) were conducted with recruited children until no new information was forthcoming (ten FGDs, each with 8-10 children, aged 8-<18 years). We also conducted SSIs with 25 children, selected to represent their variability in age, sex, ethnic group and religious group. In Phase III, we profiled all recruited children using variables generated through SSIs and FGDs.

We used two pre-piloted, interviewer-administered, semi-structured questionnaires to conduct SSIs with KIs and street children. A pre-piloted, moderator's question guide was used to moderate FGDs. An interviewer-administered questionnaire was used for profiling. All interviewers had prior experience in studies/programmes involving street children, and therefore had a good rapport with participants. SSIs and FGDs were tape recorded with consent of participants whenever possible, and notes were taken down. Tapes were transcribed and notes expanded immediately after each SSI and FGD. Data were analysed using qualitative content analysis. We observed children’s behaviour using a pre-piloted behaviour checklist and these data were used to validate information that emerged from SSIs and FGDs.

Informed consent was obtained from all participants, including children. In addition, informed consent of parents/guardians was also obtained for participation of their children. Ethical approval was obtained from Ethical Review Committee of Faculty of Medical Sciences, University of Sri Jayewardenepura. Whenever children were in need of support services from health, social services, or any other sector, we referred them to relevant sectors.

Results

KIs included 6 parents/guardians, 6 street vendors, 5 persons working in boutiques, and 3 social workers/researchers. Our sample included 283 children (of-street n=102; 36% and on-street n=181; 64%) representing all major ethnic and religious groups. Nearly 62% were aged 14 years or less. Majority were boys. Around 40% lived either with one or both parents, but nearly 18% lived alone. Two thirds had never enrolled in a school (Table 1).

Despite diversity of social, demographic, cultural and economic strata these children represent, they shared common socio-economic disadvantages, and valued delinquent behaviour over traditional social norms and values. Social prestige is usually bestowed upon a street child based on a set of mostly anti-social behaviour demonstrated by that child. On the other hand, their lifestyle, and at times their very survival, is closely tied to such risk behaviour which are means of their sustenance. However, they also use some risk behaviour as recreations.
Table 1. Basic socio-demographic data of the contacted street children

<table>
<thead>
<tr>
<th></th>
<th>Female (n=73)</th>
<th>Male (n=210)</th>
<th>Total (n=283)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10 years or less</td>
<td>33 (45.2%)</td>
<td>46 (21.9%)</td>
<td>79 (27.9%)</td>
</tr>
<tr>
<td>11-12 years</td>
<td>14 (19.2%)</td>
<td>32 (15.2%)</td>
<td>46 (16.2%)</td>
</tr>
<tr>
<td>13-14 years</td>
<td>17 (23.3%)</td>
<td>33 (15.7%)</td>
<td>50 (17.7%)</td>
</tr>
<tr>
<td>15-16 years</td>
<td>5 (6.8%)</td>
<td>58 (27.6%)</td>
<td>63 (22.3%)</td>
</tr>
<tr>
<td>17 - &lt;18 years</td>
<td>4 (5.5%)</td>
<td>41 (19.5%)</td>
<td>45 (15.9%)</td>
</tr>
<tr>
<td><strong>Ethnicity</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sinhala</td>
<td>31 (42.5%)</td>
<td>74 (35.2%)</td>
<td>105 (37.1%)</td>
</tr>
<tr>
<td>Tamil</td>
<td>23 (31.5%)</td>
<td>56 (26.7%)</td>
<td>79 (27.9%)</td>
</tr>
<tr>
<td>Moor</td>
<td>14 (19.2%)</td>
<td>57 (27.1%)</td>
<td>71 (25.1%)</td>
</tr>
<tr>
<td>Other</td>
<td>5 (6.8%)</td>
<td>23 (10.9%)</td>
<td>28 (9.9%)</td>
</tr>
<tr>
<td><strong>Religion</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Buddhist</td>
<td>30 (41.1%)</td>
<td>65 (30.9%)</td>
<td>95 (33.6%)</td>
</tr>
<tr>
<td>Hindu</td>
<td>20 (27.4%)</td>
<td>50 (23.8%)</td>
<td>70 (24.7%)</td>
</tr>
<tr>
<td>Islam</td>
<td>18 (24.7%)</td>
<td>71 (33.8%)</td>
<td>89 (31.4%)</td>
</tr>
<tr>
<td>Catholic/Christian</td>
<td>3 (4.1%)</td>
<td>16 (7.6%)</td>
<td>19 (6.7%)</td>
</tr>
<tr>
<td>Other</td>
<td>2 (2.7%)</td>
<td>8 (3.8%)</td>
<td>10 (3.5%)</td>
</tr>
<tr>
<td><strong>Lives with</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Both parents</td>
<td>7 (9.6%)</td>
<td>10 (4.8%)</td>
<td>17 (6.0%)</td>
</tr>
<tr>
<td>Mother only</td>
<td>13 (17.8%)</td>
<td>57 (27.1%)</td>
<td>70 (24.7%)</td>
</tr>
<tr>
<td>Father only</td>
<td>8 (11.0%)</td>
<td>20 (9.5%)</td>
<td>28 (9.9%)</td>
</tr>
<tr>
<td>Non-parent partner of mother or father</td>
<td>5 (6.8%)</td>
<td>15 (7.1%)</td>
<td>20 (7.1%)</td>
</tr>
<tr>
<td>Grand parent</td>
<td>14 (19.2%)</td>
<td>17 (8.1%)</td>
<td>31 (10.9%)</td>
</tr>
<tr>
<td>Aunt / uncle</td>
<td>6 (8.2%)</td>
<td>11 (5.2%)</td>
<td>17 (6.0%)</td>
</tr>
<tr>
<td>Sibling/s</td>
<td>12 (16.4%)</td>
<td>8 (3.8%)</td>
<td>20 (7.1%)</td>
</tr>
<tr>
<td>Neighbour</td>
<td>3 (4.1%)</td>
<td>16 (7.6%)</td>
<td>19 (6.7%)</td>
</tr>
<tr>
<td>Others</td>
<td>3 (4.1%)</td>
<td>8 (3.8%)</td>
<td>11 (3.9%)</td>
</tr>
<tr>
<td>None</td>
<td>2 (2.7%)</td>
<td>48 (22.8%)</td>
<td>50 (17.7%)</td>
</tr>
<tr>
<td><strong>Level of education</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Never enrolled in school</td>
<td>52 (71.2%)</td>
<td>128 (61.0%)</td>
<td>180 (63.6%)</td>
</tr>
<tr>
<td>Completed 1-5 years of schooling</td>
<td>18 (24.7%)</td>
<td>53 (25.2%)</td>
<td>71 (25.1%)</td>
</tr>
<tr>
<td>Completed 6-10 years of schooling</td>
<td>3 (4.1%)</td>
<td>29 (13.8%)</td>
<td>32 (11.3%)</td>
</tr>
</tbody>
</table>

Table 2. Risk behaviour adopted by street children due to occupations

<table>
<thead>
<tr>
<th>Risk behaviour</th>
<th>Female (n=73*)</th>
<th>Male (n=210*)</th>
<th>Total (n=283*)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Begging</td>
<td>18 (42.7%)</td>
<td>48 (22.9%)</td>
<td>66 (23.3%)</td>
</tr>
<tr>
<td>Heavy manual labour</td>
<td>-</td>
<td>20 (9.5%)</td>
<td>20 (7.1%)</td>
</tr>
<tr>
<td>Light manual labour**</td>
<td>15 (20.6%)</td>
<td>39 (18.6%)</td>
<td>74 (26.2%)</td>
</tr>
<tr>
<td>Legal trades activities**</td>
<td>24 (32.9%)</td>
<td>88 (41.9%)</td>
<td>112 (39.6%)</td>
</tr>
<tr>
<td>Transportation and sale of illicit alcohol and narcotics</td>
<td>19 (26.0%)</td>
<td>90 (42.9%)</td>
<td>109 (38.5%)</td>
</tr>
<tr>
<td>Pick-pocketing / stealing / robbing</td>
<td>17 (23.3%)</td>
<td>52 (24.8%)</td>
<td>69 (24.4%)</td>
</tr>
<tr>
<td>Commercial/Survival sex work</td>
<td>18 (24.7%)</td>
<td>42 (20.0%)</td>
<td>60 (21.2%)</td>
</tr>
<tr>
<td>Pimping</td>
<td>2 (2.7%)</td>
<td>47 (22.4%)</td>
<td>49 (17.3%)</td>
</tr>
</tbody>
</table>

* Many children engage in multiple risk occupations.
** Only underage children are included.
Table 3. Risk behaviour adopted by street children as means of frequent recreations

<table>
<thead>
<tr>
<th>Risk behaviour</th>
<th>Female (n=73*)</th>
<th>Male (n=210*)</th>
<th>Total (n=283*)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abuse of alcohol</td>
<td>10 (13.7%)</td>
<td>169 (80.5%)</td>
<td>179 (63.2%)</td>
</tr>
<tr>
<td>Abuse of narcotic substances (including cannabis)</td>
<td>4 (5.5%)</td>
<td>153 (72.9%)</td>
<td>157 (55.5%)</td>
</tr>
<tr>
<td>Smoking</td>
<td>2 (2.7%)</td>
<td>178 (84.8%)</td>
<td>180 (63.6%)</td>
</tr>
<tr>
<td>Use of pornography</td>
<td>6 (8.2%)</td>
<td>163 (77.6%)</td>
<td>173 (62.4%)</td>
</tr>
<tr>
<td>Promiscuous sexual activities</td>
<td>25 (34.2%)</td>
<td>78 (37.1%)</td>
<td>103 (36.4%)</td>
</tr>
<tr>
<td>Patronising CSWs</td>
<td>-</td>
<td>74 (35.2%)</td>
<td>74 (26.2%)</td>
</tr>
</tbody>
</table>

* Many children engage in multiple risk behaviours as recreations.

**Occupational risk behaviour**

Many children engage in (at times forced to by their adult carers) risk behaviour to earn a living. Younger children are mostly used in begging, which is hidden due to legal restrictions, but nevertheless ongoing. These children are not provided with adequate nutrition, and their health conditions are not given due attention as doing so would render these children useless for begging. “‘...uncle didn’t give medicine (to child). If cured, people won’t give money’” - SSI (child) 3.

Child labour, which is a form of child abuse, is common among street children. They engage in a variety of manual labour, ranging from light activities (e.g. helping adults to wheel carts) through cleaning of shops/market places/toilets to heavy manual labour (e.g. lifting and carrying heavy loads). They also sell commercial items such as vegetables, fruits, betel and newspapers “Sometimes I thought (that) I would die of weight (of the load carried)” - SSI (child) 17.

Although many children are forced by adult carers to engage in these activities, majority of them, especially those who do not have (or not cared-for by) adult-carers, chose to do so. In addition, children also work as pimps for commercial sex workers (CSWs) of Colombo city. Some children, including boys, themselves function as CSWs or survival sex workers (SSWs). Further, children are also used as a medium for transportation and sale of illicit alcohol and narcotic substances. “how could they operate in our area? ... One day, we ambushed them and cut (them) with razor knives” - FGD 9.

**Recreational risk behaviour**

There is a gender difference in recreational risk behaviour (Table 3). Abuse of alcohol and narcotic substances is widespread among boys but less among girls. Smoking cigarettes and cannabis, which are equally prevalent, is a practice exclusively of boys with rare exceptions. Sexual promiscuity is common among both male and female adolescents and includes male homosexual behaviours. Boys patronise CSWs at times. Usage of pornography is commoner among boys. “Nobody cares whom they (children) have sex with... I have slept with sixteen already” - FGD 4. “We get free drugs and free sex. It is good life” - FGD 8.

**Other risk behaviour**

These children, especially boys, often encounter violence. As a rule, most boys live in 'gang's which are tightly knit and function based on their own rules and norms. Entry into gangs is difficult, and membership is guarded. These gangs facilitate peddling of illicit alcohol and narcotic substances. In order to protect such financial interests of gang membership the gangs display territorial behaviour, which at times leads to violent encounters with other gangs. “how could they operate in our area? ... We also get drugs free” - FGD 4.

Pick-pocketing and robbing are also common occupations of street children, which are conducted either alone or in collaboration with others. Both girls and boys are used for begging. However, engagement in manual labour, transportation and sale of illicit alcohol and narcotics, and pimping are commoner among boys (Table 2).

**Correlates of risk behaviour**

Extreme poverty, socio-cultural and peer pressures, and low educational achievements are considered as important factors promoting risk behaviour. Lack of families/guardians and inadequate family support and attachment to alternative value systems in their culture are also considered as risk factors. Most children consider risk behaviour as their recreational activities. Lack of acceptable recreations for these children promotes such behaviour as recreations.

**Discussion**

Children’s appreciation of delinquency over traditional values probably results from the street culture which disregards the latter [4]. Difficult and disadvantaged socio-economic background of Colombo's street children
forces them to adopt risk behaviour as in other parts of
the world [17-19]. Most risk behaviour is essentially
coupled with their sources of sustenance, effectively
preventing them from seeking alternatives. Some
employers violate the law by offering employment to
underaged children. Law enforcement in this regard has
been inadequate [4, 16]. Most occupations, especially
those which involve manual labour and drug peddling,
make them vulnerable to physical and mental abuse, and
it is vital that state/non-state partnerships be developed
to monitor children in occupations and ensure their
safety.

Pimping makes children vulnerable to risky sexual
behaviour and encourages them to patronise CSWs [4,
16]. This and children practising as CSWs/SSWs,
especially as male CSWs/SSWs, endangers their health
by increasing the risk of contracting HIV and hepatitis B
[16]. Colombo’s underworld and drug dealers increasingly
exploit children for their benefit, which places these
children at risk of substance and alcohol abuse, resulting
addiction, and becoming victims of violence [4,16]. This
is confirmed by the comparatively high proportion of street
children who frequently smoke and abuse alcohol and
narcotic substances [19].

An important factor associated with risk behaviour
is the disadvantaged socio-economic background from
which these children originate, which sequentially leads
to further disadvantaged socio-cultural situations. They
are from families of extreme poverty with low
educational achievements. Family disruptions are
common in such settings, leading to poor family support
and inadequate care and supervision by available carers
[23]. This in turn forces children to fend for themselves.
Norms of their social environment also promote risk
behaviour. In a culture which has scanty regard for
normal social values, anti-social behaviour is
considered prestigious. Coupled with gang behaviour
and peer pressure, this encourages children to partake
in risk activities [4].

A major limitation in our study is the sampling
method used. Due to the nature of the study population
it was not possible to use any form of random sampling
which would have increased external validity of results.
Nevertheless, we have attempted to capture most of the
study population through extensive referring, to minimise
this bias.

Conclusion

Street children in Colombo city exist in a hidden
social interface with complex risk factors and engage in
risk behaviour that endangers themselves and society.
Appropriate policies, policy tools and strategies which
would involve multiple stakeholders, need to be
introduced to minimise such threats.

Acknowledgements

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Abstract

Introduction People rely on the quality of the bottled drinking water, expecting it to be free of microbial contamination and health hazards.

Objectives To evaluate the quality of bottled drinking water sold in Jaffna peninsula by analysing the physical, chemical and microbial contents and comparing with the recommended Sri Lankan Standard (SLS) values.

Methods All bottled water samples sold in Jaffna peninsula were collected. Electrical conductivity, total dissolved solid, pH, calcium, nitrate, total aerobic and anaerobic count, coliform bacterial count and faecal contamination were checked.

Results These are 22 brands of bottled drinking water sold in Jaffna peninsula. The sample had very low electrical conductivity when compared with SLS (750 µS/cm) and varied from 19 to 253 µS/cm with the mean of 80.53 (±60.92) µS/cm. The pH values of the bottled drinking water brands varied from 4.11 to 7.58 with a mean of 6.2 (±0.75). The total dissolved solid content of the bottled drinking water brands varied from 9 to 123.67 mg/l with a mean of 39.5 (±30.23) mg/l. The calcium content of the bottled drinking water brands varied from 6.48 to 83.77 mg/l with a mean of 49.9 (±25.09) mg/l. The nitrate content of the bottled drinking water brands varied from 0.21 to 4.19 mg/l with the mean of 1.26 (±1.08) mg/l. Aerobic bacterial count varied from 0 to 800 colony forming unit per ml (cfu/ml) with a mean of 262.6 (±327.50) cfu/ml. Among the 22 drinking bottled water brands 14 and 9% of bottled drinking water brands showed fungal and coliform bacterial contaminants respectively. The water brands which contained faecal contamination had either Escherichia coli or Klebsiella spp.

Conclusions The bottled drinking water available for sale do not meet the standards stipulated by SLS.

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Introduction

Water is the most important resource for humans. It forms 50 to 60% of body weight and play an active role in all the vital processes of our body [1]. The chemical quality of drinking water during recent years has deteriorated considerably due to the presence of toxic elements, which even in trace amounts can cause serious health hazards [2]. Water should be free from any organisms. But unfortunately water is not always found pure. The contamination of natural water with faecal material, domestic and industrial sewage and agricultural and pasture run off may result in an increased risk of disease transmission to humans [3]. The market is inundated with a large number of brands of bottled water. Various countries have enforced drinking water standards for the maximum permissible levels of different constituents [4]. Due to increased demand and consumption of bottled water in Sri Lanka, there has been a growing concern about the quality of these products. In recent times concerns have been expressed about the increase in poor quality of well

1Department of Agricultural Chemistry, Faculty of Agriculture and 2Department of Biochemistry, Faculty of Medicine, University of Jaffna, Sri Lanka.
Correspondence: SS, e-mail <sasit_agri@yahoo.com>. Received 22 March and revised version accepted 19 May 2012. Competing interests: none declared.