

Original Research



Emotional and behavioural status and associated factors of children aged 11-16 years in children's homes in Gampaha Probationary Division

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Abstract

Introduction: Emotional and behavioural conditions are common among inmates living in children's homes due to the lack of love, affection and care compared to their counterparts living with parents, making them more vulnerable for above disorders.

Objectives: To describe the emotional and behavioural status and the associated factors among inmates aged 11-16 years of children's homes in the Gampaha Probationary Division

Methods: A descriptive cross-sectional study was conducted. Sample size calculated was 294. Inclusion criteria was being conversant in Sinhala language. All eligible inmates of 14 children's homes in Gampaha Probationary Division were recruited. Study instruments comprised self-rated Strengths and Difficulties Questionnaire (SDQ), interviewer-administered questionnaire and a checklist to extract relevant data from the records. Bivariate and multivariate logistic regression was carried out to identify associated factors for emotional and behavioural status. Probability <0.05 was selected as the significant level. The results were expressed as odds ratios (OR) and 95% confidence intervals (CI).

Results: Response rate was 100% (N=279). The prevalence of abnormal emotional and behavioural status was 26.2% (95% CI=21.1, 31.7). Problems with conduct were the highest (28.7%; 95% CI=23.4, 34.4) and pro-social problems were the lowest (3.6%; 95% CI=1.7, 6.5). Female sex (OR=2.4; 95% CI=1.2, 4.8; p=0.014), living in children's homes for more than six years (OR=3.0; 95% CI=1.5, 6.0; p=0.003), having less than 10 friends (OR=2.2; 95% CI=1.2, 4.2; p=0.015) and keeping problems to themselves (OR=10.1; 95% CI=3.9, 26.2; p<0.001) were significantly associated with having abnormal emotional and behavioural status.

Conclusions: Observed prevalence is higher than figures from general population, which was 18.9%. Except sex, all associated factors were modifiable, thus early screening and establishing counselling services are recommended. Future research should focus on assessing all three versions of SDQ and qualitative research to identify root causes of the related problems.

Key words: emotional and behavioural status, strengths and difficulties questionnaire, inmates of children's homes

Introduction

Emotional and behavioural problems are among the most prevalent chronic health conditions of childhood and often have serious negative consequences for a child's academic achievement and social development (1). In any nation, children are considered as buds of that nation who will build up the future.

Childhood represents a time of critical development in mind, in part because a significant amount of brain development occurs during this period. Although childhood is generally regarded as a carefree time of life, many children and adolescents experience emotional difficulties resulting from conditions such as separation, death or debilitating illness of parents, being subjected to physical, sexual and emotional abuse, stressful situations that may result from poor educational performance and failure to achieve ambitions and inability to fulfil parental expectations. The children who have undergone physical abuse are said to have a higher probability of having emotional or behavioural disorders (2-3).

Children's homes are defined as a place where children are cared for, if their parents are dead or if they are unable to take care of them (4). In Sri Lanka, children's homes are run by both government and non-governmental organizations. Currently, the state-run children's homes and probationary services come under the purview of the Department of Probationary and Child Care Services. Under the supervision of this department, 341 registered children's homes are functioning throughout the country with 13,214 inmates living in these homes.

Commonly institutionalized ones are the children orphaned due to death of both parents or those abandoned by parents or those children who have been deprived of basic needs. The inmates in these homes lack the love, affection and care that are received by their counterparts who are more fortunate to have their parents with them to provide all the physical and emotional needs. Children living in these homes are likely to experience extremely stressful situations in relation to the reasons that lead them to be under such care, which might have a long-lasting impact on their development. Deprivation of parental love and care are likely to slow the progress in recovery of such stressful life events. The likely outcomes of the latter are

psychiatric illnesses and anti-social behaviour. Article 9 of UN Convention of Rights of the Child (1989) mentions that "the child has a right to live with his or her parents unless this is deemed to be incompatible in the child's best interests".

Although there are many studies (5-8) done in Sri Lanka about mental health problems in children in general, less attention has been paid towards the emotional and behavioural status of inmates in children's homes who are more vulnerable than those who are fortunate enough to grow up under the protection of their parents. Therefore, it is important that their emotional and behavioural status and the associated factors are assessed, in order to plan and implement strategies to overcome and manage these problems so that they turn out to be useful citizen who are socially interactive and in gainful employment and positively contributing towards the economy of the country. This study was done to describe the emotional and behavioural status and associated factors of inmates aged 11-16 years in children's homes in Gampaha Probationary Division.

Methods

A cross-sectional, descriptive study was carried out in September 2013. The study setting was the Gampaha Probationary Division (one among three such divisions in the district of Gampaha). The study population consisted of inmates of children's homes aged 11-16 years. Of the total 16 children's homes, 15 were occupied by inmates conversant in Sinhala language. Permission to conduct the study was not granted by authorities of one home and hence the total number of homes included was 14, which housed a total of 279 inmates. The sample size was calculated by considering the prevalence of 50%, desired level of precision as 6% and 95% desired level of confidence. A further adjustment to the sample size was made considering a non-response rate of 10%, making the final sample of 294. Therefore, all 279 inmates were included in the study.

The self-administered version of Strengths and Difficulty Questionnaire (SDQ), checklist and an interviewer-administered questionnaire were used for the study to collect data. SDQ is an emotional and behavioural screening questionnaire which is applicable

to children and youth (9) ranging from 3-16 years. The Sinhala version is available freely to use as a screening questionnaire. There are three versions available, namely self-rated, teacher-rated, and parent-rated. In this study, the self-rated version (questionnaire) intended for 11-16-year-old children (9) was used. SDQ consists of five subscales: emotional, problems of conduct, hyperactivity, peer problems and pro-social scale. This has been validated by Perera (5) in Sri Lanka using a clinical group. Lukumar (6) had validated Tamil version of self-rated SDQ among general population of children; sensitivity 66.1% and specificity 93.7%. Checklist consisted of socio-demographic factors, information related to probationary status and current status of parents, which was obtained from documents related to the individual inmates of children's homes. Interviewer-administered questionnaire consisted of behavioural factors (e.g. leisure time activities, problem solving methods) and social factors (e.g. Schooling, number of friends) of the inmates. Data were collected by the principal investigator after introducing the purpose of the study to the matrons who were in charge of children's homes and taking informed written consent. In addition to the above, assent from the children was obtained.

Data analysis

A total of 25 items (each scale containing five items) are included on a three-point Likert response scale ('not true', 'somewhat true' and 'certainly true'). The scores given for above responses were 0, 1 and 2, respectively with reverse scoring used according to positively or negatively worded items. The scores for each of the five scales were generated by summing up the item scores in the individual scales. The 'total difficulties score' ranging from 0-40 is derived by summing the total score received for the first four scales, which depict the negative aspect, whereas the last scale on pro-social behaviour is a positive aspect and therefore not included in computing the final total difficulties score. Based on this score, an individual child is categorised as: 'normal' (0-15), 'borderline' (16-19) and 'abnormal' (20-40). For analysis purpose, the last two categories were pooled together as 'abnormal'.

Bivariate analysis using Chi-squared test was followed by multiple logistic regression to identify factors associated with emotional and behavioural

status after controlling for confounding factors. At 5% significance level, the results were expressed as odds ratio (OR) and 95% confidence interval (CI). Goodness of fit was confirmed using Hosmer-Lemeshow Test ($\chi^2=14.63$; $df=8$; $p=0.067$).

Results

Majority of inmates were females ($n=172$; 61.6%); aged between 11-13 years ($n=155$; 55.6%) with a mean age of 13.4 (SD=1.8) years; of Sinhala ethnicity ($n=267$; 95.7%) and Buddhists ($n=261$; 93.6%) (Table 1). The prevalence of abnormal emotional and behavioural status among inmates of children's homes was 26.2% (95% CI=21.1, 31.7). Of the four scales of SDQ score, the scale of 'conduct problems' had the highest prevalence of 28.7% and 'peer problems' the lowest prevalence of 11.8%.

Table 1. Socio-demographic factors of the sample of inmates (N=279)

Socio-demographic factor	No. (%)	
Age	11-13 years	155 (55.6%)
	14-16 years	124 (44.4%)
Sex	Female	172 (61.6%)
	Male	107 (38.4%)
Ethnicity	Sinhala	267 (95.7%)
	Tamil & Moor	12 (4.3%)
Religion	Buddhism	261 (93.6%)
	Christianity,	
	Hinduism & Islam	16 (6.4%)

Mean age 13.4 years, SD = 1.8 years

The highest prevalence of abnormal total difficulties score was seen in 12 year ($n=14$; 33.3%) and 15 year ($n=13$; 33.3%) old inmates, whereas the lowest prevalence was among 11-year-old inmates ($n=12$; 20.0%). 33.7% of females and 14% of males had abnormal emotional and behavioural status. According to the bivariate analysis, female sex (OR=3.1; 95% CI=1.7, 5.9; $p<0.001$), living in children's home for more than six years (OR=2.1; 95%

CI=1.1, 4.0; p=0.01), having less than 10 friends (OR=1.8; 95% CI=1.03, 3.1; p=0.04) and keeping problems to themselves (OR=8.2; 95% CI=3.5, 19.7; p<0.001) were significantly associated with having abnormal emotional and behavioural status.

Logistic regression analysis showed female sex (OR=2.4; 95% CI=1.2, 4.8; p=0.014), living in a

children's home for more than six years (OR=2.9; 95% CI=1.5, 6.0; p=0.003), having less than 10 friends (OR=2.2; 95% CI=1.2, 4.2; p=0.015) and keeping problems to themselves (OR=10.1; 95% CI=3.9, 26.2; p<0.001) were significantly associated with having abnormal emotional and behavioural status. Among the four factors that were associated with the latter, except for female sex, all others were modifiable.

Table 2. Frequency distribution of the individual symptom scores of Strengths and Difficulties Questionnaire (SDQ) in the sample of inmates (N=279)

Scale (Domain)	Total score	Cut off value	Normal	Abnormal	95% CI
Peer problems	10	≥06	246 (88.2%)	33 (11.8%)	8.3-16.2
Emotional	10	≥04	215 (77.1%)	64 (22.9%)	18.1-28.3
Hyperactivity	10	≥06	205 (73.5%)	74 (26.5%)	21.4-32.1
Conduct	10	≥04	199 (71.3%)	80 (28.7%)	23.4-34.4
Total Score	40	≥16	205 (73.5%)	73 (26.2%)	21.1-31.7

Table 3. Factors associated with abnormal emotional and behavioural status (N=279)

Variable		Odds Ratio	95% CI	p value
Sex	Female	2.4	1.2-4.8	0.014
	Male		1.0	
Number of friends	<10	2.2	1.2-4.2	0.015
	≥10		1.0	
Duration of stay	>6 years	3.0	1.5-6.0	0.003
	≥6 years		1.0	
Discussing problems with someone	No	10.1	3.9-26.2	< 0.001
	Yes		1.0	

Discussion

The prevalence of abnormal emotional and behavioural status among inmates of children's homes reported from this study (26.2%) was higher than that of the general population (n=379; 18.9%) reported by Perera from a research conducted on a national sample in Sri Lanka (5). This indicates that inmates of these homes are vulnerable, and therefore they are in need of special attention. In a research done in Bangladesh (10), the prevalence of emotional and behavioural status was 40.4% which is a higher rate than that reported from both studies conducted in Sri Lanka.

In the study done in Sri Lanka by Perera (5), the highest age specific prevalence rate (n=625; 31.1%) of abnormal total difficulties score was observed among the same age category as that of the present study. On the contrary, in the study done in Zimbabwe (11), older children reported less psychological distress than younger children (co-efficient: -0.27; 95% CI=0.5, 0.05).

In the present study, except for the hyperactivity scale, scores of other scales were higher than that of the general population reported by Perera in the study done in Sri Lanka (5), which was 4.8% for the conduct scale, 14.1% for the emotional scale and 17.9% for peer problems. The lower prevalence observed in this study may be due to the fact that the general population consists of a mix of both normal and affected adolescence, whereas the present study was focusing on a targeted group of adolescents who have been institutionalized.

Conduct problems were the commonest (n=34; 49%) reported by a study in Jordan (12) similar to the present study. Emotional problems among foster children were reported as 24% (n=67; 95% CI=19.0, 29.4) in a study done in Norway (13) which were consistent with the results of the present study (23%). In the study done in Pakistan (14), the tool used was the parent version of SDQ which was filled by foster mothers. The prevalence of peer problems for the above study was 83.9% (n=277), problems of conduct 50.0% (n=165), abnormal pro-social behaviour 47.3% (n=156), hyperactivity 12.7% (n=42) and emotional problems 9.4% (n=31). Out of three versions of SDQ (Parent rated, teacher rated and self-rated), self-rated version is used in this study. Thus, the inconsistency

with regard to other studies may be attributed to individual perceptions which is strongly melded by the culture of a society.

The factors that have been considered by other researches are male sex, (10, 15) death of both parents (10, 14), longer length of stay in an institution (10, 16) and less communication with families of children who are residing in orphanages (12). There were four variables which showed a significant association with emotional and behavioural status in the present study, namely the duration of the stay of more than six years, having less than 10 friends, female sex and not discussing problems with others. The duration of stay of more than six years in the children's homes with an OR of 3.0 for loss of parental attachment for a long period of time would cause psychological instability. In addition to this, being institutions handling a large number of children, children's homes are places where strict discipline is maintained. Had they been at home, these regimented daily routines would be unlikely. Two other studies (10, 16) also reported that longer durations of stay in institutions are associated with psychiatric disorders. Long-term institutionalization increases the likelihood that children will grow into psychologically impaired adults (17). Hence, it is imperative that all possible measures that reduce the period under probationary care are explored.

The adjusted odds were 2.2 times higher to have an abnormal emotional and behavioural status among those inmates who had less than 10 friends in comparison to those who had more than 10. This may be attributed to the inability of inmates with psychological disturbances to interact with others. However, this is in contradiction with what was observed in relation to pro-social behaviour where 96.4% (n=269) of inmates had claimed to have normal pro-social behaviour reflecting on one's ability to interact with others. Thus, the accuracy of information provided by the inmates in this instance remains doubtful. The children who were having more friends and getting along well with friends were related with less emotional and behavioural problems in a comparative study done in Turkey (18).

Odds were 2.4 time higher for females to have an abnormal emotional and behavioural status than males. However, Lukumar (6) found no significant association

between sex and mental health problems among school-going adolescents (OR=1.3; 95% CI=1.0, 1.7). A study done in Egypt (15), found a significant association between female children with depression ($p<0.001$). Contrary to the above finding, a study in Jordan (12) showed that males were more likely to have abnormal psychological scores than females ($p<0.05$). Similar results have been reported in studies done in Cairo (16) and Sri Lanka (6).

The odds were 10.1 (OR=10.1; 95% CI=3.9, 26.2; $p<0.001$) times higher to have an abnormal emotional and behavioural status among those inmates who did not discuss their problems with others in comparison to those who did. However, the wider confidence interval reflecting low precision, suggests inadequacy of the sample size even though it achieved a highly significant association. Just narrating/discussing one's problems itself can exert a therapeutic effect by reducing the stress. In a study conducted in Turkey (18), it was revealed that children with lower problem-solving skills had higher behavioural problems.

The total eligible study participants in all the 15 Sinhala language conversant children's homes in Gampaha Probationary Division was 319. One of the homes consisting of 40 (12.5%) inmates refused permission to be included in the study. This non-participation may have led to a selection bias which might have had an impact on the prevalence rates reported. It also impairs the ability to generalize the results to all the 15 homes which house the Sinhala conversant inmates. With regard to assessment of associated factors, confounding has been controlled by applying multiple logistic regression which may be considered a strength of the study. Being a cross-sectional descriptive study design, it is not possible to assess temporal association with regard to cause and the effect. This is considered a limitation inherent to the study design.

Conclusions & Recommendations

The findings of the study revealed a high prevalence of abnormal emotional and behavioural status among the inmates of children's homes, compared to the general population. This finding underscores the need to establish a screening system to detect abnormal psychopathological status of

inmates living in children's home as they are a more vulnerable group. There should be a mechanism of referring these identified inmates who are having an abnormal psychopathological status to a child psychiatrist for further management. Also, provision of regular counselling services for the inmates is a timely need.

Public Health Implications

Emotional and behavioural conditions are common among inmates living in children's homes due to the lack of love, affection and care compared to their counterparts living with parents, making them more vulnerable for above disorders. A number of modifiable factors could be addressed to prevent these emotional and behavioural conditions and can establish early screening and counselling services to reduce the present condition of emotional and behavioural conditions in the children's homes.

Author Declarations

Competing interests: Both authors do not have conflicts of interest.

Ethics approval and consent to participate: Ethics approval was obtained from the Postgraduate Institute of Medicine. Informed written consent was obtained from the guardian and verbal assent obtained from the participants. Written permission was taken from the Commissioner of Western Province, Department of Probation and Child Care Services as well as the from the management of individual children's home before the commencement of the study.

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