PATTERNS OF DELINQUENCY, DIETARY BEHAVIOR AND NUTRITIONAL STATUS OF THE ADOLESCENT WASTE PICKERS IN DHAKA CITY

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Abstract

A study was carried out among the 385 adolescent waste pickers in Dhaka city, who were spending their times on the streets, park or adjacent slum areas for their earnings. The majority (40%) of the waste pickers were belongs to 10-12 years. The prevalence rate of severely malnourished boys and girls were 39.3 and 46.9% respectively. But no relation was observed between nutritional status and severity of adolescent delinquency. The role of family has a positive impact on reducing delinquency among the respondent. An amazing relation was observed between waste pickers' living status and patterns of delinquency. Adolescents living with their parents were relatively less involvement of delinquency rather than living alone. The reasons for living alone of waste pickers were mainly divorced/ separation of their parents (34.2%) and financial problems (27.8%). Most of them (45%) earn 51 to 75 taka daily whereas 41% earn 25-50 taka per day. The average income of waste pickers was only 68.45 taka per day. As a result, waste pickers cope with alternative means of survival strategy and that's lead to involve in delinquency. In the context, sociological factors persuade them to commit delinquent behavior rather than biological factors.

Key Words: Adolescence, Delinquency, Waste Pickers, Body Mass Index BMI).

Introduction

Adolescence (from Latin: adolescere meaning "to grow up") is a transitional stage of physical and mental human development generally occurring between poverty and legal adulthood (Macmillan Dictionary, 1981) but largely characterized as beginning and ending with the teenage stage (http://www.lifemodel.org/download/Model%20 Building% 20Appendix.pdf 2009). This period of development corresponds roughly to the period between the ages of 10 and 19 years, which is consistent with the World Health Organization's definition of adolescence. They comprise 20% of the global population, and about 80% of them live in developing countries (WHO, 1986) like Bangladesh. This is an important period for physical, mental and sexual development. Children gain 20% and 50% of their adult height and weight respectively (Mahan, et. al., 1996). For girls this is the time when physical preparation for motherhood takes place (Dreizen, et. al., 1967).

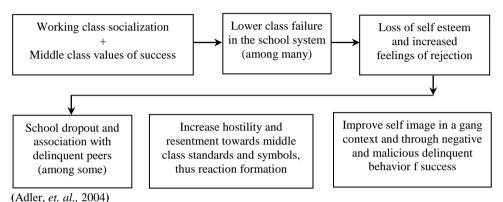
Adolescence delinquency refers to antisocial or illegal behavior by adolescents, for dealing with juveniles, such as juvenile detention centers. There are a multitude of different theories on the causes of crime, most cases if not all of which can be applied to know the causes of youth crime. The risk factors for adolescent delinquency are mother or father ever arrested,

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one or more family transitions (death, divorce, trauma and family upheaval), client of child protection, early severe antisocial behavior (Barnes & Teeters, 2003).

Delbert Elliot shows his study among 1726 people in the age of 11-17 as belonging lower class are more likely to commit crime or delinquent activities than middle class people such as burglary, robbery, assault, and sexual assault. Sutherland (1939) shows in his differentials association theory with nine propositions that criminal behavior is learned through social interactions (Adler, et. al., 2004). Travis Hirschi demonstrated that boys with delinquent friends are more likely to become delinquent. The process of reaction formation among delinquent boy:



Hirschi shows in his micro-sociological perspective that four types of social bond that promote socialization and conformity like: attachment, commitment, involvement and belief. The stronger these bond, he claimed the less likelihood of delinquency and weakness in any of the bonds was associated with delinquent behavior (Adler, et. al., 2004).

Waste Pickers are "Those who collect classify and sell recyclable materials from mixed waste" (Furedy, 1990). General characteristics of the waste pickers are poor, low education, no skill to be employed in other sectors (Eerd, 1997). Waste picking is one of the worst forms of child labour, Adolescents working alongside their families, work for little or no pay, most likely to be poor and come from families with low education. Reasons for working as a waste picker are poverty, unable to enrol in school, help parents to support the family (Flores & Sogot, 2006). There are waste pickers in both rich and poor countries all around the world. The majority, however, are on the streets in developing countries, mainly as a direct result of poverty. These adolescent survive by begging or doing things like shining shoes or sorting rubbish to sell salvaged scraps. Some, particularly girls, get coerced into the sex trade. All waste pickers don't live with their family, are not in school and have no official person or institution to care for them. They lack the support offered by a family and must fend for themselves but according to UN CRC 1989, 'A child should have the rights to optimum development of his/her personality with love and affection, understanding in familial environment' (UNICEF, 2010).

Estimated number of waste pickers in Bangladesh: 445,226 (of which 75% are in Dhaka city); 53% boys, 47% girls. All categories of waste pickers are called *Tokai* ('rag pickers') by the general public, although they may be engaged in a range of petty trading/employment/criminal activities. According to Ahmed, among the street children covered in the survey, 48-7% were of age 11-14 years, 26% were of age 14-17 and 25% of age 5-

11 years. Girls were relatively younger (average age 11.5 years) compared to boys (average age 12.2 years) (Ahmed, 2003).

According to the Bangladesh Institute of Development Studies (BIDS) report in December 2004 a total number of street children in Bangladesh is 6,74,178 who can do nothing but put up with abuse. Being deprived from education and proper care those children lose their sense of right and wrong. Peer influences also play a big role in leading them astray. Growing number of street children pose a threat to the society. Teenager criminals are feared to be more desperate. Due to adventurism characteristic of young age, they will not hesitate to commit crimes without the slightest thought of their own safety. Street children, who collect recyclable goods from the streets to make a living, were forced into begging as the streets were the arena for political violence. Due to increased police vigilance over the opposition blockade programme, these homeless children were also subjected to police abuse and repression. There is an alarming rise in the victimization of street girls aged between 9 and 18 by pornographers, they said and called for combined efforts of the government and NGOs to combat it. Poverty as a reason for children to migrate to urban areas, and lauded the role NGOs are playing in the rehabilitation of sexually abused street children and motivating the community positively (Patt, 2010). During the adolescence age, children do not have a friendly relation with parents and therefore, cannot share their problem with parents. As a result, they conceal the fact even if they are tortured and suffer from mental distress (Save the children, 2009). Waste pickers throughout the world are subjected to physical abuse by police or have been murdered outright, as governments treat them as a blight to be eradicatedrather than as children to be nurtured and protected. They are frequently detained arbitrarily by police simply because they are homeless, or criminality charged with vague offenses such as loitering, vagrancy, or petty theft. They are tortured or beaten by police and often held for long periods in poor conditions. Girls are sometimes sexually abused, coerced into sexual acts, or raped by police. Waste pickers also make up a large proportion of the children who enter criminal justice systems and are taken finally to correctional institutions that are euphemistically called schools, often without due process. Few advocates speak up for these children, and few waste pickers have family members or concerned individuals willing and able to intervene on their behalf.

Waste pickers in Rwanda were predominantly adolescent boys, almost half of whom were homeless (42%), with a high proportion of orphaned children or children who had lost at least one parent. Two variables predicted homelessness: child's guardian and reason for being in street. Qualitative accounts of children conveyed the impact of death of family members, repatriation, imprisonment of parents, and poverty on their lives (Veale & Dona, 2001). Children may be lured by the prospect of a more exciting life in the city or a chance to earn money. The reality is that they usually live in terrible conditions with no-one to protect them and often no record that they even exist. They can easily end up working for little pay in dangerous conditions. They are at risk of sexual abuse and exposure to sexually transmitted infections. Some turn to drugs as a way of coping, or crime as a means to survive, which involves them with the police. While many police are just doing their jobs, others harass or take advantage of vulnerable waste pickers. Waste pickers of all age group are exposed to the harshness and cruelty of street life characterized by exploitation. The waste pickers does not have any secured place to sleep at night; which exposes them to excessive rain, cold or sunshine. The Police, Mastan (derailed criminal) and night guards also frequently disturb them when they sleep on the street or platforms. They do not have enough food to eat; frequently they have to

remain half-fed. They do not have adequate winter clothing, nor do they have hygienic toilet facilities. The combination of a variety of factors including poor diet and nutrition coupled with unhygienic living conditions increases waste picker's exposure to health risks. As a result, most of the waste pickers suffer from various diseases (Hoq, 2004).

The waste pickers' access to basic amenities likes primary education, health care and legal protection is largely excluded from the present system (Lawrence, et. al., 2006). Several factors are contributing the increase of the number of waste pickers and in Bangladesh out of 10 urban children live under difficult circumstances and are involved in dangerous and hazardous activities. Poverty, inadequate housing, poor healthcare, malnutrition, unemployment and lack of education have all contributed to the incidents of child and adolescent annihilation, abuse and neglect. There is violation of rights at every stage of their lives, having no means and access to protection or a support structure to prevent exploitation or negligence. The waste pickers health and nutritional status as well as their life style is bully due to absence or lack of safety, shelter, food security and any mechanism to prevent their abuse.

Methods and Materials

The study was conducted among the 385 waste pickers in urban Dhaka selected randomly from the four renowned park areas namely Dhaka University campus area, Dhanmondi lake park area, Ramna park and Bahadur Shah park during January 2010 to June 2010.

The Sample size (n) was calculated by the following formula:

$$n = \frac{z^2pq}{d^2} = 384$$

Where,

n = desired sample size

z = normal standard deviation confidence level of set will be 95 %, which corresponds to 1.96.

p =the estimated prevalence (assume 0.5 or 50%)

q = 1-p. = 1-0.5=0.5

d = degree of accuracy desired usually set at 5% (0.05)

The purpose and nature of the study was explained to each participant and after getting the verbal consent, they were recruited in the study. Among them 257 were boys and 128 were girls whom were interviewed for the study.

Development of Questionnaire

A questionnaire was developed containing both closed & open ended questions to obtain relevant information on anthropometric, socioeconomic, adolescent delinquency and dietary condition of the adolescent. All questions were designed, pretested, modified and resettled to obtain and record information easily. Any modification necessary were then made and a final recoded, pretested questionnaire was drawn up.

Anthropometric Assessment

The anthropometric data were collected based on standard methods. Age of the subjects under study was determined by interview. Measurements of weight and height were obtained from all subjects. The subjects were weighed wearing minimal cloths and bare footed. Their weight measurements were obtained using a bathroom weighing scale and the average was calculated and recorded to the nearest 0.1 kg. The height was measured

with a wooden measuring board without shoes and the average was calculated and recorded to the nearest 0.1 cm. Body Mass Index (BMI) as the best method of measuring the nutritional status of adolescent.

$$BMI = \frac{Weightin kg}{Height in m^2}$$

Socio-demographic and Delinquency Data

Information on demographic, delinquent and socioeconomic variables was obtained by a standard structured questionnaire. The patterns of various delinquency occurred during adolescent period was collected by a standard questionnaire involving their lack of love and affection from their parents and relatives, ignorance of their aspiration, beating, various types of pressure from the outsiders etc. On the other hand, the family conditions, living status, relations of parents and relatives, lack of fulfillment of their needs were also observed. From this micro-sociological perspective was used to identify of their involvements with various types of delinquent activities.

Dietary Behavior Assessment

Food intake pattern was assessed by the three days consecutive food consumption of qualitative food frequency questionnaire methods.

Data analysis

The data were properly checked, cleaned and entered into the computer from the appropriate codes on the form. The frequency distributions of the entire variables were checked by using SPSS 12.0 windows program. For proper analysis, Univariate and bivariate (cross tabulation and association measures 'Lamda') analysis were used to assess the relationships among the variables.

Results and Discussions

The percentage of the of waste pickers under different age group was shown in table-1 which indicated that about 40% of them aged ten to twelve years and the second highest (36.1%) group aged thirteen to fifteen years. So it is observed that most of the adolescent are below 15 years old. Most of the respondents are found male (66.8%). Among the respondents, 28.8% waste pickers were live alone in Dhaka City and most of them (34.8%) belong to six to eight member's family.

Table 1. Demographic and socio-economic information of the respondents

| Age (Years) | n (%) | Sex | n (%) | Family Size | n (%) |
|-------------|------------|--------|------------|--------------|------------|
| 10-12 | 154 (40.0) | Male | 257 (66.8) | Living Alone | 111 (28.8) |
| 13-15 | 139 (36.1) | Female | 128 (33.2) | 3-5 | 87 (22.6) |
| 16-18 | 92 (23.9) | | | 6-8 | 131(34.0) |
| | | | | >8 | 56 (14.6) |
| Total | 385 (100) | | 385 (100) | | 385 (100) |

| Socio-economic Information | Mean | Standard deviation |
|-----------------------------------|-------|--------------------|
| Daily Income (Taka) | 68.45 | 13.32 |
| Daily Expenditure (Taka) | 76.76 | 14.44 |
| Daily expenditure on foods (Taka) | 56.58 | 9.42 |

Many waste pickers have no choice but to help support their poverty stricken families and become involved in hazardous work. Moreover, they are deprived of their basic rights such as education, nutrition and protection. The above table shows that waste pickers earn only 68.45± 13.32 Tk. per day. According to the United Nations international standard of measuring poverty, they live below the line of absolute poverty (Todaro & Smith, 2010). On the other hand, the daily expenditure on food was about 56.58±9.42 Taka, which indicate that more than 82.6% of their income was expended for getting food. From the above data stated that, daily expenditure of waste pickers were higher than their income. That means, they have deficit budget for the existence of their survival and try to adapt alternative method for earning money that is theft, pick-pocketing etc. 'I received Tk 25 after joining a political procession (picketing) on the last day of the blockade and I had a great meal on that day,' said Abdul (pen-name) with a smile on his face questioning what is the causes of joining political procession/picketing? However, income shortage was not the only causes of joining delinquent activities, other causes also penetrates delinquency such as, living status and/ or place, peer group influence etc. Delinquent peers can extract tremendous influence behavior, attitude and beliefs. Deviant peers help provide friendship networks that support delinquency and drug use (Siegel, 1998).

Table 2. Distribution of the all respondents by reasons of their living alone

| Reasons | Number of the respondents | Percentage |
|------------------------------------|---------------------------|------------|
| Divorced/ separated of parents | 39 | 34.2 |
| 2 nd marriage of Father | 9 | 8.3 |
| 2 nd marriage of Mother | 1 | 0.9 |
| Parents live in village | 13 | 12.0 |
| Orphan | 19 | 16.7 |
| Financial problems | 30 | 27.8 |
| Total | 111 | 100 |

Table-1 also shows that 28.8% of the respondents were live alone and table-2 shows the distribution of the all respondents why living alone. Divorced / separated (34.2%), Financial problems and orphan life (27.8%), 2nd marriage of their parents was also the major causes for living alone and thus they live in the street, park or slum areas. The early study of Breckinridge and Abbott, upon analysis of some 13000 cases of delinquent children, showed that 34 percent came from broken homes (Barnes & Teeters, 2003).

Table 3. Patterns of delinquency among the adolescent waste pickers

| Patterns* | Frequency | Percentage |
|-------------------------------|-----------|------------|
| Theft | 219 | 56.8 |
| Purse/bag-snatch | 124 | 31.4 |
| Pick pocket | 98 | 25.5 |
| Fraud/ cheating | 59 | 15.3 |
| Picketing | 128 | 33.2 |
| Assault/ Sexual abuse | 42 | 10.9 |
| Drug bearing and selling | 31 | 8.5 |
| Bomb/explosive /arms bearing | 29 | 7.5 |
| No Involvement in delinquency | 38 | 9.9 |

^{*}Multiple responses observed

Table-3 shows the patterns of delinquency among the adolescent waste picker in Dhaka city and reveals that most of waste pickers are involved in Theft (56.8%), Purse/ bagsnatch (31.4%), and Picketing (33.2%). They were also involved in pick pocket (25.5%), fraud/ cheating (15.3%), assault/ sexual abuse (10.9%). Moreover, a considerable percent adolescents waste pickers involvement with the violent activities like bomb/explosive /arms bearing and drug bearing and selling. However, a modest numbers of adolescent waste pickers were out of these delinquency activities. According to Delbert Elliot, Sutherland and Hirschi's findings about to commit crime or adolescent delinquent activities pattern were very similar to the above findings (Adler, et. al., 2004).

Table 4. Relationship between status of living with parents and dietary behavior

| | Dietary Behavior | | | | | | | |
|-----------------------------|--|-----------------------|---|-----------------------------|--|--|--|--|
| Living Status | Regular meal taking thrice per day | Taking stale foods | Rice, meat/fish, pulse, veg. taken during lunch | Taking hygienic foods | | | | |
| Living with parents (n=109) | 81 (74.3) | 9(8.3) | 26(23.9) | 95 (87.2) | | | | |
| Father (n=21) | 12 (57.1) | 3(14.3) | 4(19.0) | 13 (61.9) | | | | |
| Mother (n=89) | 55(61.8) | 5(5.6) | 17(19.1) | 74(83.1) | | | | |
| Relatives(n=55) | 40(72.7) | 7(12.7) | 7(12.7) | 44(80.0) | | | | |
| Living alone (n=111) | 26(23.4) | 29(26.1) | 9(8.1) | 20(18.0) | | | | |

Table-4 shows the relations between status of their living and dietary behavior of the waste pickers. About three quarters (74.3%) of the waste pickers taking their meals thrice daily who's were living with their both parents, while above fifty percent of waste pickers living with father took three times per day. Again, only about ten percent waste pickers took fusty foods who's living with their both parents or single parents, while 26.1% waste pickers living without parents took it. During lunch, about one fourth of the waste pickers living with both parents took more balanced food than living with only mother or father. More hygienic foods were taken observed in who's living with their parents.

Table 5. Percent distribution of the Body Mass Index (BMI) by sex N = 385 (Boys =257, Girls=128), (CED= Chronic Energy Deficiency)

| BMI | Nutritional Status | Boys, n (%) | Girls, n (%) |
|------------|--------------------|-------------|--------------|
| <16.0 | CED ₃ | 101 (39.3) | 60 (46.9) |
| 16.1-17.0 | CED ₂ | 43 (16.7) | 25 (19.5) |
| 17.1-18.49 | CED ₁ | 39 (15.2) | 15 (11.7) |
| 18.5-24.9 | Normal | 68 (26.5) | 25 (19.5) |
| 25.0-30.0 | Overweight | 6 (2.3) | 3 (2.3) |
| >30.0 | Obese | 0 (0.0) | 0 (0.0) |
| | Total | 257 (100) | 128 (100) |

Table-5 shows the distributions of the adolescent waste picker's Nutritional Status (BMI) in selected waste pickers and it was found that majority of the boys and girls BMI was very low (<16.0) and indicated that both boys (39.3%) and girls (46.9%) were severely malnourished. On the other hand 26.5% boys and 19.5% girls were normal BMI or well-nourished.

Table 6. Association between Living status and patterns of adolescent delinquency

| | Patterns of Delinquency | | | | | | | | | |
|---------------------|-------------------------|------------------|-------------|-----------------|-----------|-----------------------|-----------------------------|---------------------------------|----------------------------------|-------|
| Living Status | Theft | Purse/bag-snatch | Pick pocket | Fraud/ cheating | Picketing | Assault/ Sexual abuse | Drug bearing and selling | Bomb/explosive /arms bearing | No Involvement in delinquency | Total |
| Living with parents | 5 | 2 | 3 | 2 | 2 | 2 | 1 | 0 | 8 | 25 |
| Father | 13 | 11 | 8 | 13 | 20 | 4 | 1 | 1 | 10 | 81 |
| Mother | 21 | 28 | 19 | 13 | 13 | 2 | 1 | 0 | 13 | 110 |
| Relatives | 23 | 2 | 2 | 5 | 5 | 7 | 6 | 4 | 7 | 61 |
| Living alone | 50 | 2 | 16 | 2 | 12 | 11 | 7 | 8 | 0 | 108 |
| Total | 112 | 45 | 48 | 35 | 52 | 26 | 16 | 13 | 38 | 385 |

Calculated value of Lamda (λ) = 0.68

Table-6 shows the association between living status of the respondents and the patterns of adolescent delinquency and found that the adolescent who live with parents was involved in less delinquent activities such as theft (20%), purse snatch (8%) and pick-pocketing (12%). But the adolescent who live alone was involved in more delinquent activities such as theft (46.3%), pick-pocketing (14.8%), picketing (11.1%), assault/ sexual abuse (10.2%) and bomb blast (7.4%). Similar activities were done by the adolescent who live with relatives. Yet again, the adolescent who live alone was more involved in delinquent activities (28.1%) than living with parents (6.5%). From these cross tabulation it has been taken the association measurement, Lamda (λ) with the value of 0.68 that means the association between living status of the respondents and the patterns of adolescent delinquency is high. So it can claim that patterns of adolescent delinquency depend on respondents living status. Demath and Brown (2004) was found the similar patterns of adolescent delinquent activities (Demath and Brown, 2004).

Table 7. Association between BMI and patterns of adolescent delinquency

| | | Patterns of Delinquency | | | | | | | | |
|------------|-------|-------------------------|-------------|-----------------|-----------|--------------------------|-----------------------------|---------------------------------|----------------------------------|-------|
| ВМІ | Theft | Purse/bag- snatch | Pick pocket | Fraud/ cheating | Picketing | Assault/ Sexual abuse | Drug bearing and selling | Bomb/explosive /arms bearing | No Involvement in delinquency | Total |
| <16.0 | 38 | 21 | 21 | 14 | 13 | 22 | 15 | 14 | 13 | 171 |
| 16.1-17.0 | 19 | 7 | 10 | 4 | 6 | 4 | 4 | 6 | 5 | 65 |
| 17.1-18.49 | 8 | 10 | 7 | 3 | 3 | 5 | 3 | 2 | 6 | 47 |
| 18.5-24.9 | 32 | 10 | 14 | 8 | 7 | 9 | 3 | 3 | 8 | 94 |
| 25.0-30.0 | 0 | 4 | 3 | 1 | 0 | 0 | 0 | 0 | 0 | 8 |
| Total | 97 | 52 | 55 | 30 | 29 | 40 | 25 | 25 | 32 | 385 |

Calculated value of Lamda (λ) = 0.021

Adolescents in single-parent families are significantly more delinquent than their counterparts residing with two biological, married parents, although these differences are reduced once the authors account for various family processes. Furthermore, family processes fully account for the higher levels of delinquency exhibited by adolescents from single-father versus single-mother families (Demath & Brown, 2004).

Table-7 shows the association between BMI of the respondents and the patterns of adolescent delinquency, from these cross tabulation it has been taken the association measurement, Lamda (λ) with the value of 0.021 that means the association between BMI and the patterns of adolescent delinquency are very poor.

In the context of table 6 and 7, the nutritional status (BMI) and the patterns of adolescent delinquency are independent in respect of each other, but on the other hand, patterns of adolescent delinquency are highly related with living status of the respondent. The study concluded that the adolescent delinquent activities are highly related with the sociological factors than biological factors.

Conclusion

Adolescent waste pickers are deprived of nutritious food required for healthy growth and development. Most of them were living with broken families and alone that is why they are deprived of basic needs. They are denied of normal childhood, stated that most of the adolescent waste pickers are involved in various types of delinquent activities. Comparing the biological and sociological factors of adolescent delinquent activities in Dhaka city, Bangladesh shows that the sociological factors are more prone to influence these adolescent delinquent activities. It is our moral and social obligation to resolve this issue.

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