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## HEALTH STATUS AND RISK FACTORS OF STREET CHILDREN IN BENI-SUIEF CITY

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### ABSTRACT:

The magnitude of street children problem is escalating, and this is related to increasing levels of poverty especially in developing countries. The aim of this study was to highlight the problem of street children in Beni-Sueif city, with emphasis on the health and social status of these children through assessing the health status of these children and identifying the most common risk factors influencing their physical, psychological, and social health. The study was conducted on 101 street children in Beni-Sueif city. Data collection tools included an interview questionnaire form, a physical assessment sheet, and a lab sheet for stool and urine analysis, hemoglobin level, and viral Hepatitis B and C markers. The results revealed that their age ranged between 7 and 16 years. The majority were current smokers, used addictive substances, and all had aggressive behavior. The most common physical problems were underweight, angular stomatitis, and teeth decay. All had positive stool analysis, 86.1% were anemic, and 24.8% had positive viral hepatitis markers. The predictors of addiction were male sex, longer duration in the street, and smoking. Age was the predictor of being hepatitis B or C positive. In conclusion, street children are mostly males who quit or never attended schools, and with untoward family circumstances. The majority are indulged in smoking, substance abuse, and violence. They suffer both physical and psychological problems. It is recommended to study the magnitude of the problem at a national level. The role of NGOs must be fostered. Screening programs are needed for these children.

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### BACKGROUND:

The problem of street children is a worldwide phenomenon. Many capitals and urban centers of the world have become a haven of survival for many children in distress. The

street children phenomenon is an alarming and escalating worldwide problem. Street children are maltreated, imprisoned, and in some countries killed. The phenomenon of street children, and offspring of the modern urban environment, represents one of humanity's most

complex and serious challenges (LeRoux and Smith, 1998).

The problem of street children is a growing problem worldwide, more so in African countries. The presence of large numbers of children sometimes as young as three on the streets in urban areas was virtually unheard of prior to the transition to a market economy. It is now a growing problem in most African cities and towns. The problem requires urgent attention as it threatens the very fabric of society. A starting point would be to get an understanding of who these children are and the factors that turn them into street children (Boyden and Gibbs, 1997).

There are several factors that lead to the rise of the street children phenomenon in Egypt. The main reasons are linked to the social and economic degradation of urban areas. About 90% of all street children in Egypt come from the poor neighborhoods in urban areas. The immediate factors that push the children into the streets are abuse by family members or employers, neglect (due to family size, low income and family breakdown), dropping out of school, and loss of job (Azer, 1993; Hope for Street Children in Egypt, 2007).

According to the World Health Organization (WHO, 1995), street children definition encompasses four different groups. The first group is children living on the street whose immediate concerns are survival and shelter. The second group is children who are detached from their families and living in temporary shelters, such as hostels and

abandoned houses and buildings, or who move from place to place living with friends. The third group is children who remain in contact with their family, but because of poverty, overcrowding, or sexual or physical abuse within the family will spend some nights, or most days on the streets. The fourth group is children who are in institutional care, who have come from a situation of homelessness and are at risk of returning to a homeless existence.

There are very few studies available on the issue of street children in Egypt, and those existing do not focus on the children themselves, but instead focus on the problem and the visual indicators of its existence on a surface level, viewing the children as a “disease needing to be eliminated through, in most cases, more laws and restrictions” (Bibars, 2007). Surveys of these children have found that they range in age from nine to eighteen years of age, although the majority are around thirteen years of age. Most of these children are members of the local urban poor. However, some are older children that migrate from rural areas in the hope of finding employment. Many street children in Egypt have left families facing extreme forms of poverty. Many of these children do not attend school, do not receive health care, and are unprotected by adults (Zain Al-Dien, 2009).

## **METHODS:**

An analytic cross-sectional study design was used in carrying out this study during the year 2009-2010 in Benisuief city. The study was

conducted on children male or female who has any one of the following inclusion criteria:

- Living on the street whose immediate concerns are survival and shelter.
- Detached from families and living in temporary shelters.
- In contact with their family, but because of poverty, overcrowding, or sexual or physical abuse within the family will spend some nights, or most days on the streets.

A snowball sampling technique was used in recruiting eligible children. The sample size was estimated to determine the prevalence of any illness with a rate of 50% among street children, with a 10% absolute precision and a 95% level of confidence, using the single proportion equation for dichotomous variables (Schlesselman, 1982). The estimated sample size is 88 children. After adjustment for a dropout rate of about 10%, the sample size was increased to 101.

Three tools were used to collect the necessary information. Interview questionnaire form for gathering information concerning: personal data, family characteristics and details of street living. Assessment sheet includes general examination, anthropometric measurements and psychological assessment. Laboratory sheet for investigations of urine and stool analysis, Hemoglobin level and viral Hepatitis B and C markers. Formal administrative approvals were taken before the start of the fieldwork. Children were briefed about the study, encouraged to participate. To collect information from children through direct

personal contacts, the researcher trained two of the specialists of nursing to assist her in gathering information and taking measurements of the children. Also, a laboratory technician accompanied the team for the withdrawal of blood samples for analysis of the markers of hepatitis B and C viruses, and other lab tests. On the second day in the morning, the lab technician collected stool samples. Laboratory investigations were carried out in a specialized private laboratory in Beni Sweif. The forms were filled through individual interviewing for each child. During the interviews, the team offered some sweets and juice to children, and some children were offered some clothes and small gifts through the society of young good of the students of the University of El-Nahda Beni-Sueif. Weight and height were measured. Underweight was defined according to age- and sex-specific body mass index (BMI) ( $\text{kg/m}^2$ ) as <5th percentile (CDC, 2000).

Data entry and statistical analysis were done using SPSS 14.0 statistical software package. Data were presented using descriptive statistics in the form of frequencies and percentages for qualitative variables, and means and standard deviations for quantitative variables. Qualitative categorical variables were compared using chi-square test. Whenever the expected values in one or more of the cells in a 2x2 tables was less than 5, Fisher exact test was used instead. To identify the independent predictors of various health problems, logistic

**regression analysis was used. Statistical significance was considered at  $p < 0.05$**

## RESULTS:

The age of children in the study sample ranged between 7 and 16 years, with mean  $12.9 \pm 2.3$  years. The majority (83.2%) were males, illiterate (41.6%), or just could read and write (38.6%). (Table 1).

Figure 1 illustrates the sites from which children were recruited. More than half (60.4%) were from non-governmental organizations (60.4%), while only 3.0% were from social defense.

Concerning school attendance, Table 2 shows that about one-third of the children (29.7%) never attended school, while only 2% were currently in school. The majority of those who quit did it in primary phase (81.2%). As for the reasons for quitting, the most frequently mentioned were poverty (94.0%), seeking gain of money (75.0%), and lack of interest (67.0%).

As regards family characteristics, Table 3 indicates that the highest percentages of children were of second or third birth order (41.6%). The majority had siblings (93.1%), with more sisters ( $2.4 \pm 1.6$ ) than brothers ( $2.2 \pm 1.3$ ). About one-third of the children had stepmothers (33.7%), and step-siblings (33.7%), and 14.9% had stepfathers.

Concerning the characteristics of street living, most of the children were living alone (77.2%), and for more than two months (78.2%). The most common places for spending night were at work patron's (47.5%), or in the street (45.5%). The time of being in the street was mostly at night (52.2%), and in any days of the week (82.2%). (Table 4).

According to Table 5, the most common reason for street living as reported by studied children was to gain money (98.0%), followed by having a chance to work with friends (41.6%). Family-related reasons were maltreatment (36.6%), having stepparents (34.7%), escaping from family (32.7%), and having divorced parents (28.7%).

As regards the types of work done, they were mostly selling goods (74.3%), and begging (57.4%). Meanwhile, slightly more than one-third of the children reported theft as a job (35.6%), whereas 5.0% reported sex work. Their income was on average  $21.7 \pm 21.5$  LE per day. Less than two-thirds of them were saving money (61.4%), and the saved money was not given to anyone in about half of them (49.5%). (Table 6).

Table 7 shows that the most common means for getting food were begging and buying, 73.3% and 56.4% respectively. As for clothing, it was mainly from trash (56.4%), or begging (52.5%). Most children reported having a regular bath (82.2%). This was mostly in the river (34.9%) or at home (30.1%). About two thirds (68.3%) reported bathing more than once per week.

Figure 2 displays children's evaluation of their present status compared to home living. Only about one-fourth of them (26.7%) viewed their life was worse than at home.

Concerning smoking, the majority of children were current smokers (83.2%) as shown in Table 8. This was mostly cigarettes (75.0%), with a mean  $16.0 \pm 11.7$  cigarettes per

day. The mean age at start of smoking was  $9.2 \pm 2.1$  years, and it was mostly after leaving home (60.7%).

As for addiction and drug abuse, Table 9 indicates a high knowledge about bango (91.1%), Kolla (89.1%), Hashish (74.3%), and alcohol (64.4%). It also shows that about three-fourth of the children have ever used drugs (74.3%), and this mostly happened in the street (100.0%).

Table 10 shows that all studied children had aggressive behavior in the form of quarrelling (100.0%). The most commonly mentioned tools used in violence were nails, stones, and razor blades, 82.2%, 68.3%, and 67.3% respectively. On the other hand, about one-fifth of them (21.8%) committed violence against themselves. The most common of this was suicidal attempts (43.2%) and cutting veins (18.2%).

As regards psychological problems, Table 11 shows that all children had some kind of psychological problem (100.0%). Phobias were the most commonly reported (83.2%), followed by frustration (77.2%), feeling unhappy (71.3%), and feeling like quarreling (70.3%). Also, 60.4% had fears from the police.

Physical examination of the children revealed that almost all of them (94.1%) had some physical abnormal findings (Table 12).

The most common problems were underweight (57.4%), angular stomatitis (68.3%), and teeth decay (58.4%).

As for general appearance, Table 13 shows that more than half of the children looked depressed (54.5%), and almost all of them (96.0%) lacked personal hygiene. The total number of problems per child ranged between 3 and 9, with mean  $\pm$ SD  $6.0 \pm 1.6$  problems.

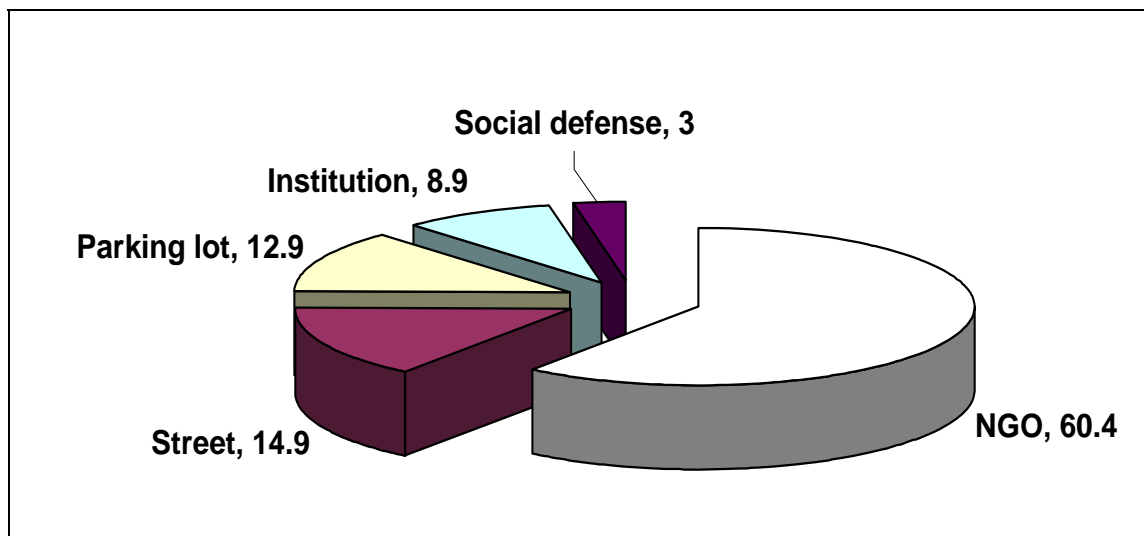
Laboratory findings (Table 14) revealed that all of the study children had positive stool analysis. The majority were anemic (86.1%), with mean Hemoglobin  $10.0 \pm 0.6$  gm/dl. Also, about one-fourth of them had viral hepatitis markers (24.8%), mostly C.

Table 15 points to statistically significant associations between smoking and child's age ( $p=0.04$ ) and sex ( $p<0.001$ ). It is evident that smoking was higher with older age group (31.0%) and among male children (92.9%).

Similarly, Table 16 shows no statistically significant associations between smoking and any of the child's street life characteristics.

Table 17 demonstrates statistically significant associations between drug addiction and child's age ( $p=0.04$ ) and sex ( $p<0.001$ ). It can be noticed that drug addiction was higher with older age group (32.0%) and among male children (93.3%).

**Part I: Socio-demographic characteristics of children and their families:**



**Figure 1: Distribution of children in the study sample according to location (n=101)**

**Table 1: Socio-demographic characteristics of children in the study sample (n=101)**

	Frequency	Percent
<b>Site:</b>		
Parking lot	13	12.9
Social defense	3	3.0
Institution	9	8.9
Street	15	14.9
NGO	61	60.4
<b>Age (years):</b>		
<15	74	73.3
15+	27	26.7
<b>Range</b>	<b>7.0-16.0</b>	
<b>Mean±SD</b>	<b>12.9±2.3</b>	
<b>Sex:</b>		
Male	84	83.2
Female	17	16.8
<b>Education:</b>		
Illiterate	42	41.6
Read/write	39	38.6
Primary	17	16.8
Preparatory	3	3.0

**Table 2: School attendance among children in the study sample (n=101)**

	Frequency	Percent
<b>School attendance:</b>		
Never attended school	30	29.7
Entered and quit	69	68.3
Currently in school	2	2.0
Quit at:		
Primary	56	81.2
Preparatory	13	18.8
Currently in:		
Primary	1	50.0
Preparatory	1	50.0
<b>Causes of no entry/quitting school:@</b>		
Family poverty	94	94.0
Seeking money gain	75	75.0
No interest	67	67.0
Family disorganization	47	47.0
Work to support family	38	38.0
Difficult transportation	31	31.0
Far school	29	29.0
Frequent failure	23	23.0
Maltreatment at school	20	20.0
Family will and car	22	22.0
Overcrowded school	9	9.0
Inefficient teachers	3	3.0
Disease/disability	2	2.0
Unsuitable school schedule	1	1.0
Other (father death, neglect)	10	9.9

(@) Not mutually exclusive

**Table 3: Family characteristics of children in the study sample (n=101)**

	Frequency	Percent
<b>Birth order:</b>		
1	32	31.7
2-3	42	41.6
4+	27	26.7
Have siblings	94	93.1
<b>No. of brothers:</b>		
Range		0-5
Mean±SD		2.2±1.3
<b>No. of sisters:</b>		
Range		0-6
Mean±SD		2.4±1.6
Have stepmother	34	33.7
Have stepfather	15	14.9
Have step-siblings	34	33.7
<b>No. of stepbrothers:</b>		
Range		0-5
Mean±SD		0.5±1.0
<b>No. of stepsisters:</b>		
Range		0-5
Mean±SD		0.4±0.8



## Part II: Characteristics of street life:

**Table 4: Characteristics of street living as reported by children in the study sample (n=101)**

	Frequency	Percent
<b>Current living status:</b>		
<b>With family</b>	23	22.8
<b>Alone</b>	78	77.2
<b>Duration in the street (months):</b>		
<2	22	21.8
2+	79	78.2
<b>Range</b>	<1-120	
<b>Mean±SD</b>	45.5±30.0	
<b>Spending night at:®</b>		
<b>Work patron</b>	48	47.5
<b>Street</b>	46	45.5
<b>Family home</b>	30	29.7
<b>Friends</b>	17	16.8
<b>Relatives</b>	4	4.0
<b>Time of being in street:</b>		
<b>Morning</b>	26	25.7
<b>Afternoon</b>	10	9.9
<b>Night</b>	53	52.5
<b>Any time</b>	12	11.9
<b>Days of the week being in street:</b>		
<b>Weekend</b>	8	7.9
<b>Weekdays</b>	10	9.9
<b>Any time</b>	83	82.2

**Table 5: Reasons for street living as reported by children in the study sample (n=101)**

Reasons for living in street®	Frequency	Percent
<b>To gain money</b>	99	98.0
<b>Job opportunity with friends</b>	53	53.6
<b>Parents' maltreatment</b>	37	36.6
<b>Stepparents</b>	35	34.7
<b>Escape fro family</b>	33	32.7
<b>Divorced parents</b>	29	28.7
<b>Maltreatment from others</b>	15	14.9
<b>Father death</b>	13	12.9
<b>Escape from home responsibilities</b>	10	9.9
<b>Looking for relatives</b>	1	1.0
<b>Job opportunity with relatives</b>	1	1.0
<b>Other (crime, father illness)</b>	25	24.8

(®) Not mutually exclusive

**Table 6: Work and income from street living as reported by children in the study sample (n=101)**

	Frequency	Percent
<b>Types of work done: @</b>		
Selling goods	75	74.3
Begging	58	57.4
Car washing	38	37.6
Theft	36	35.6
Janitor	34	33.7
Carrying luggage	18	17.8
Serving at homes	15	14.9
Shining shoes	9	8.9
Drug trafficking	5	5.0
Sex work	5	5.0
Destruction of properties	2	2.0
Other (baker, construction, etc.)	7	6.9
<b>Income gained the day before (LE):</b>		
<20	53	52.5
20+	48	47.5
<b>Range</b>	<b>0.0-125.0</b>	
<b>Mean±SD</b>	<b>21.7±21.5</b>	
<b>Saved money the day before (LE):</b>		
No	39	38.6
Yes	62	61.4
<b>Range</b>	<b>0.0-900.0</b>	
<b>Mean±SD</b>	<b>42.4±133.9</b>	
<b>The money saved given to:</b>		
Nobody	50	49.5
Friend for travel	32	31.7
Friend for a project	12	11.9
Friends for food	3	3.0
Friend for room rent	1	1.0
Brothers	2	2.0
Work patron	1	1.0

(@) Not mutually exclusive

**Table 7: Means of getting food, clothes, and bathing as reported by children in the study sample (n=101)**

	Frequency	Percent
<b>Means of getting food:</b>		
Beg	74	73.3
Buy	57	56.4
Trash	33	32.7
Steal	15	14.9
Sex	1	1.0
<b>Means for clothing:</b>		
Trash	57	56.4
Beg	53	52.5
Buy	39	38.6
Steal	22	21.8
Sex	1	1.0
<b>Bath</b>	<b>83</b>	<b>82.2</b>
<b>Bathing place:</b>		
River	29	34.9
Home	25	30.1
Mosque	15	18.1
Work	6	7.2
Friends	5	6.0
Public bath	3	3.6
<b>Frequency:</b>		
Weekly	32	31.7
More than once per week	69	68.3

### Part III: Psychosocial and physical health problems:

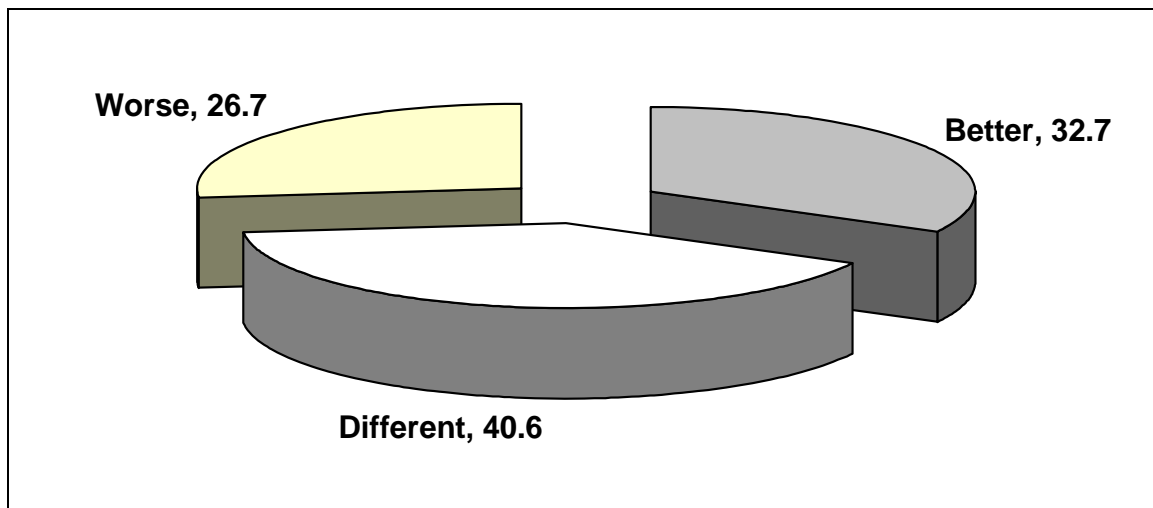


Figure 2: Perception of current situation as reported by children in the study sample (n=101)

Table 8: Smoking habits as reported by children in the study sample (n=101)

	Frequency	Percent
<b>Smoking:</b>		
Never	17	16.8
Current	84	83.2
<b>Type:</b>		
Cigarettes	63	75.0
Hookah + cigarettes	17	20.2
Hookah + cigarettes + goza	4	4.8
<b>Range</b>	2.0-60.0	
<b>Mean±SD</b>	16.0±11.7	
<b>No. of hookah fills:</b>		
<b>Range</b>	1.0-5.0	
<b>Mean±SD</b>	2.2±1.1	
<b>Duration (years):</b>		
<b>Range</b>	1.0-13.0	
<b>Mean±SD</b>	4.1±2.7	
<b>Age at start (years):</b>		
<10	45	53.6
10+	39	46.4
<b>Range</b>	5.0-16.0	
<b>Mean±SD</b>	9.2±2.1	
<b>Time of start:</b>		
Before leaving home	33	39.3
After leaving home	51	60.7

**Table 9: Drug addiction & Substance abuse as reported by children in the study sample (n=101)**

	Frequency	Percent
<b>Knowledge about addictive drugs:</b>		
Bango	92	91.1
Kolla	90	89.1
Hashish	75	74.3
Alcohol	65	64.4
Cough syrup	58	57.4
Tablets	51	50.5
Cocaine	41	40.6
Benzene	40	39.6
Opium	32	31.7
Other (injections, cockroach powder)	2	2.0
<b>Range</b>	0.0-9.0	
<b>Mean±SD</b>	5.4±2.6	
<b>Ever used drugs:</b>	75	74.3
Easily get drugs	35	46.7
<b>Place of using drugs:</b>		
Street	75	100.0
Coffee shop	18	24.0
Home	4	5.3
Other (workplace)	5	6.6

**Table 10: Aggressive behavior as reported by children in the study sample (n=101)**

	Frequency	Percent
<b>Aggressive behavior:®</b>		
Quarreling	101	100.0
Destruction of others' properties	38	37.6
Setting fires	14	13.9
<b>Violence commitment:</b>		
One type	54	53.5
More than one type	47	46.5
<b>Tools used: ®</b>		
Nails	83	82.2
Stones	69	68.3
Razor blades	68	67.3
Knives	53	52.5
Glass	50	49.5
Chemicals	35	34.7
Others (stick)	2	2.0
<b>Committed violence against self</b>	22	21.8
<b>Means: ®</b>		
Suicidal attempt	19	43.2
Cut veins	8	18.2
Jumped from train	4	9.1
Jumped from height	4	9.1
Drug overdose	3	6.8
Injured self	2	4.5
Threw self in front of a car	2	4.5
Drank medication	1	2.3
Poison	1	2.3

(®) Not mutually exclusive

**Table 11: Psychological problems as reported by children in the study sample (n=101)**

Psychological problem <sup>@</sup>	Frequency	Percent
Phobias	84	83.2
Frequent feeling of frustration	78	77.2
Feel unhappy	72	71.3
Feeling like quarreling	71	70.3
Daydreaming	64	63.4
Biting nails	61	60.4
Nightmares	54	53.5
Anorexia	50	49.5
No desire to play	37	36.6
Wetting bed	17	16.8
<b>Other fears from:</b>		
Police	61	60.4
Snakes	2	2.0
Ghosts	1	1.0
Sexual harassment	3	3.0
Adults	1	1.0
Police and adults	2	2.0
Police and sexual harassment	4	4.0
Police and dark	2	2.0
Police and beating	4	4.0
Police and death	2	2.0
Any psychological problem	101	100.0

(@) Not mutually exclusive

#### Part IV: Physical assessment and laboratory findings:

**Table 12: Body mass index and physical exam findings among children in the study sample (n=101)**

	Frequency	Percent
<b>Body mass index (BMI):</b>		
Underweight (<18.5)	58	57.4
Normal (18.5-25)	43	42.6
<b>Eyes:</b>		
Normal	20	19.8
Angular palperitis	41	40.6
Pale conjunctiva	32	31.7
Both	8	7.9
<b>Angular stomatitis</b>	69	68.3
<b>Teeth:</b>		
Normal	7	6.9
Decayed	59	58.4
Mottled	23	22.8
Both	12	11.9
<b>Abnormal physical findings</b>	95	94.1

**Table 13: General observation findings among children in the study sample (n=101)**

Observation <sup>@</sup>	Frequency	Percent
Lack of personal hygiene	97	96.0
Active	67	66.3
Depressed	55	54.5
Cheerful	37	36.6
Serious	30	29.7
Lice in hair	28	27.7
Adequately clothed	24	23.8
Nails cut	20	19.8
Neat/tide	3	3.0
Total observed problems:		
<4	8	7.9
4+	93	92.1
Range	3-9	
Mean±SD	6.0±1.6	

(@) Not mutually exclusive

**Table 14: Laboratory findings among children in the study sample (n=101)**

	Frequency	Percent
Positive stool analysis	100	99.0
Anemic	87	86.1
Hb:		
Range	9.0-12.0	
Mean±SD	10.0±0.6	
Hepatitis B +ve	4	4.0
Hepatitis C +ve	21	20.8
Any positive hepatitis	25	24.8

## Part VII: Relation between smoking and addiction and various characteristics of children:

**Table 15: Relation between children's smoking and their socio-demographic characteristics**

	Smoking				X <sup>2</sup> Test	p-value
	No		Yes			
	No.	%	No.	%		
Age (years):						
<15	16	94.1	58	69.0	Fisher	0.04*
15+	1	5.9	26	31.0		
Sex:					Fisher	<0.001*
Male	6	35.3	78	92.9		
Female	11	64.7	6	7.1		
Education:					1.09	0.30
Illiterate	9	52.9	33	39.3		
Educated	8	47.1	51	60.7		
Birth order:					0.99	0.61
1	4	23.5	28	33.3		
2-3	7	41.2	35	41.7		
4+	6	35.3	21	25.0		

(\*) Statistically significant at p<0.05

**Table 16: Relation between children's smoking and their street life characteristics**

	Smoking				X <sup>2</sup> Test	p-value
	No		Yes			
	No.	%	No.	%		
<b>Income gained the day before (LE):</b>						
<20	12	70.6	41	48.8	2.69	0.10
20+	5	29.4	43	51.2		
<b>Bath</b>	14	82.4	69	82.1	Fisher	1.00
<b>Perception of current status:</b>					0.79	0.67
Better than home	4	23.5	29	34.5		
Different from home	8	47.1	33	39.3		
Worse than home	5	29.4	22	26.2		

**Table 17: Relation between children's addiction and their socio-demographic characteristics**

	Drug addict				X <sup>2</sup> Test	p-value
	No		Yes			
	No.	%	No.	%		
<b>Age (years):</b>					4.13	0.04*
<15	23	88.5	51	68.0		
15+	3	11.5	24	32.0		
<b>Sex:</b>					Fisher	<0.001*
Male	14	53.8	70	93.3		
Female	12	46.2	5	6.7		
<b>Education:</b>					1.02	0.31
Illiterate	13	50.0	29	38.7		
Educated	13	50.0	46	61.3		
<b>Birth order:</b>					0.92	0.63
1	10	38.5	22	29.3		
2-3	9	34.6	33	44.0		
4+	7	26.9	20	26.7		

(\*) Statistically significant at p<0.05

## DISCUSSION:

The present study involved a sample of children in the age range between 7 and 16 years, with the majority being males. These are the typical age and sex characteristics of street children, although there are variations from place to place. In congruence with this, Schecter and Villamizar (2000) mentioned that in developing countries, children under the age of 5 years are rarely found on the street without the supervision of a family member, while starting at the age of eight years, children live completely on their own in the street. Also, most street children are boys, and the proportion of

girls ranges from only 3% to 29%, which is consistent with the present study. A similar age range was reported in Philippines (Shanahan, 2003), and in Nigeria (Oyeniya, 2010). The disparity in age difference between of children in developed countries and developing countries may be due to the available social resources in developed countries (Boakye-Boaten, 2006).

Moreover, the mean of 12.9 years of children in the present study is almost equal to that reported by the CAPMAS (2009) in Cairo street children, which is around 13 years. It also reported a proportion of 85% boys, which is quite close to the proportion of boys (83.2%) in

the present study. This sex difference has been attributed to that girls are normally involved in activities which keep them at a distance from streets, such as domestic work in private houses. On the other hand, boys are more likely to be involved in street activities as washing cars, shoe-shining, and peddling goods such as paper tissue boxes to drivers at traffic lights Hatløy and Huser, 2005). Additionally, Abdelgalil *et al.* (2004) suggested that this gender imbalance could be due to the fact that in developing countries girls are taught to cope with poverty while staying at home. Another reason given by Aptekar (2000) was that boys are expected to contribute to the household income and thus, many go to the street to do so.

The majority of street children in the present study were illiterate, or just could read and write. Only 2% of them were currently in school. The findings are in line with the CAPMAS (2009) report, which indicated that most street children in Cairo are deprived of basic education. However, this report rates of currently attending school (43%) is much higher, compared to the present study. The difference could be due to the setting, as the present study was carried out in a city of Upper Egypt where school attendance is expected to be lower, compared to the Capital.

According to the present study findings, economic factors as poverty and seeking gain of money were the most common reasons mentioned for quitting school. These were followed by lack of interest in education. These results are in agreement with those of the Cairo

survey, where the poor economic conditions at home constituted the main reason for quitting school, followed by parents' unwillingness to send them to school also due to economic reasons, and then their lack of interest in education (CAPMAS, 2009).

According to the present study findings, only about one-fourth of the street children viewed their life was worse than at home, while about one third viewed it better. Only less than one-tenth of them hoped to go back home. The finding is in congruence with the street children study in Cairo and Alexandria (UNODCCP, 2009), which revealed that only 12% of respondents identified returning to their families as a first need. However, it is in disagreement with le Roux and Smith (1998) who showed that most street children aspire to return home, provided that the familial factors that drove them away change. The discrepancy with the present study could be related to the lower socio-economic levels of families, which makes children feel better in the street.

As for their future hopes, as expressed by children in the present study, they were mostly getting married, and getting a good job. The findings indicate that these children have adapted themselves to street living, and hope just to improve their conditions therein. In congruence with this, West (2003) clarified that while some street children express concern about their long-term futures, most see this being largely beyond their control. Thus, many street children live for the moment, day-to-day.



Almost all children in the present study had friends who were mostly living in the street, 12 years or older, and males more than females. Having friends is essential for street children for both physical and psychological support. Moreover, due to hardship of street living, these friends would be better strong and able to help. This might explain why children prefer older friends of male gender. In line with this, Garrett *et al.* (2008) reported that nearly all participants of street children mentioned the importance of developing very deep bonds with friends or "street family" who provide material and emotional support, as well as a sense of protection, belonging, and identity. Moreover, le Roux and Smith (1998) mentioned that when street children band together, they represent an exceptional companionship system, which replaces the family as a source of emotional and economic support. The group offers protection, support, friendship, and solidarity.

The development of risky health habits such as smoking and drug abuse is a special concern in the problem of street children. In the present study, the majority of children were current smokers. The mean age at start of smoking was about nine years, and it was mostly after leaving home. Moreover, most of them had high knowledge about various addicting substances, and about three-fourth have ever used drugs. These high rates are quite expected given the feelings of freedom in the street with no supervision, the availability of money and addictive substances, as well as the peer pressure. The findings are in agreement with

those of Salem and Abd El-Latif (2002) in Alexandria, where all studied street children were found to be were addicted to more than one substance, including cigarettes smoking. On the same line, the UNODCCP (2009) study in Cairo and Alexandria found that 66% of the sample of street children consume various substances or drugs on a habitual basis, and 70% are cigarette smokers.

Concerning the psychological problems, the present study findings indicated that all children had experienced some sort of psychological problem. The most common were phobias, frustration, feeling unhappy, feeling like quarreling, and fears from the police. Also, most of them have the feeling that they are inferior to their peers. These problems reflect the constant feeling of insecurity in which these children live all the time. They are afraid of everything and of every person. They lack confidence in all society, and this fosters aggression among them as a defensive mechanism against the unknown. In congruence with these present study findings, le Roux and Smith (1998) reported that street children fear being harmed, incapacitated, arrested, and getting sick. They also are concerned about loneliness and being unloved. They desire respect and tend to see themselves as nice people who behave.

On physical assessment, almost all of the street children of the present study had at least one abnormal physical finding. The most common problems were underweight, angular stomatitis, and teeth decay, which affected

about two-thirds of them each. These problems are a reflection of the malnutrition and poor lifestyle, and confirm the complaints and symptoms previously reported by these children. Although these children earn money and many of them can save, they still suffer mal- or under-nutrition. This might be due to the previously explained reason whereby children spend more money on buying tobacco and addictive substances. Another reason could be the lack of knowledge about proper nutrition.

In agreement with the foregoing, Thapa *et al.* (2009) explained that street children are often underweight despite bigger earnings because of the acquisition of poor eating habits and food lacking the essential nutrients. They found that 43.8% of the street children in the sample were underweight. Similarly high rates of underweight and malnutrition were reported among street children in Kenya (Ayaya and Esamai, 2001), Ghana (Pemberton, 2007), and Manila (DOST, 2007).

Conversely, West (2003) claimed that street children may be better nourished than their peers who live in poverty in rural areas. This offers a reason why some children move from their homes into conditions that might be an improvement only in some respects. However, for some children, the street may be better than home or the local institutional care, but this does not mean that either is desirable; alternative or improved care is necessary in such cases.

Apart from the signs of malnutrition, almost all children in the present study sample lacked

personal hygiene, and more than half looked depressed. Meanwhile, more than two-thirds looked active, and more than one third looked cheerful. These findings indicate that despite the poor living conditions, many of the street children are coping, and try to adapt for their new lifestyle. On the same line, Ayuku *et al.* (2004) highlighted that street children tend to be highly resilient displaying a high degree of adaptability and flexibility in the face of adversity and, because of their special psychological characteristics, remaining remarkably well adjusted as individuals. They also have vigor and overt motor activity in a routine and constant struggle to get food. Furthermore, Carter *et al.* (2001) described how street children must develop a variety of coping strategies to avoid the theft and beatings. The low personal hygiene manifestations have also been previously reported in many street children studies (Christophe, 2007; Pemberton, 2007; Thapa *et al.*, 2009).

In further confirmation of the present study symptoms and signs, laboratory investigations were performed. The findings demonstrated that all of the study children had positive stool analysis for parasites, and the majority were anemic (86.1%). Moreover, about one-fourth of them had viral positive viral hepatitis markers (24.8%). The very high prevalence of parasitic infestations is quite expected given the low hygienic conditions. It has its impact on the nutritional status, and may contribute to the very high prevalence of anemia. Meanwhile, the high prevalence of viral hepatitis infections can

be attributed to promiscuous sexual relations, as well as addiction in the form of injectables.

The very high rate of parasitic infestation revealed in the present study is in agreement with that reported among street children in Ghana (Pemberton, 2007) where 92% of the participants were having such infestations. On the contrary, much lower rates of stool test parasite infestations were demonstrated in Nepal in the study of Christophe (2007), which reported a rate of 18%, and the study of Thapa *et al.* (2009), which reported that only 8.4% of the respondents had worm infestations. The differences among various studies could be attributed to differences in the endemicity of various parasites in different settings.

Similar to the present study findings regarding anemia and malnutrition, Singh *et al.* (2008) reported that the most common morbidity problems among street children in India are anemia, malnutrition, and dental caries. Also, Patel (2006) reported malnutrition and anemia in majority of the street children as a result of poor diet, poor hygienic condition and ignorance of these children regarding nutritive food. The study in Alexandria has even reported higher prevalence rate of underweight, but a slightly lower rate (78%) of anemia (Salem and Abd El-Latif, 2002). Close figures of anemia were also reported in Cairo by Eltahawy *et al.* (2006) and in Ghana by Pemberton (2007).

Furthermore, and in line with the present study finding pertaining to viral hepatitis infections, Türkmen *et al.* (2004) reported that

street children are at risk of encountering or interfering in violence, sexual abuse, substance addiction and of acquiring infectious diseases including viral hepatitis. However, the prevalence of viral hepatitis markers in the present study is even higher than that reported in the American literature, where it varies from 12 to 21% among street children (Ogilvie *et al.*, 1999; Beech *et al.*, 2002). The higher prevalence in the present study might be attributed to that the disease is endemic in Egypt, with very high prevalence rates.

Analysis of the factors associated with various risks and problems revealed a number of significant relations. The younger age children were more prone to malnutrition and underweight and other physical problems, which also increased by lower income. On the other hand older age children are more prone to smoking, addiction, violence, sex, and viral hepatitis infections. Also, the smoking, addiction, and violence problems are all inter-related. These findings are quite plausible since younger children are "newcomers" to street life, with less survival experience. On the other hand, older ones experience the adolescence risk behaviors of smoking, addiction, and promiscuous sex, which expose them to sexually transmitted infections as viral hepatitis.

### Study Limitations:

- The first problem faced the researcher was the difficulty in interviewing the children and finding them.
- The second problem, children were reluctant to participate' when privacy was secured in a

place where they could talk freely, the children were more willing to talk about their problems which they considered very personal, and thus should not be talked about. Gaining the confidence of children and ensuring total confidentiality helped the investigator to collect data.

- The task was more difficult because blood samples had to be taken. To deal with this problem, the researcher was accompanied by some delegates from the Assembly of homeless children to convince them and clarify the aim of the study to them. They also gave them a cash bonus and were encouraged to bring other children to the headquarters of the Assembly.

#### CONCLUSION AND RECOMMENDATIONS:

Street children are among the most vulnerable social group in any society. The study findings lead to the conclusion that street children are mostly males who quit or never attended schools. The untoward family circumstances such as poverty, illiteracy, quarreling, separation, divorce, and stepparents push these children to street life. They are involved in theft and commercial sex, and the majority indulges in smoking and substance abuse as well as violence. They suffer both physical and psycho-social health problems. The most common physical problems are related to poor nutrition and parasitic and microbial infections, where about one-fourth are positive for viral hepatitis markers. The predictors of drug abuse are male sex, longer duration in the street, and smoking, while age is the predictor of

hepatitis infection. Therefore, these children need both physical and psycho-social support.

#### The main recommendations are summarized as the following:

- Programs addressing the needs of street children constitute a form of rehabilitation which is considered too little, too late and not inefficient tool for proper prevention. So, efforts should be addressed at earlier level of interventions to the target population knowing the risk factors.
- Efforts should be addressed to the families, especially those with large numbers of children and living in slum areas to help them to overcome their economic and social problems that push their children to the street.
- There is a need for concerted efforts among local NGOs to implement educational programs that focus on the health care needs of street children.

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## الحالة الصحية والعوامل الخطرة المؤثرة على أطفال الشوارع في مدينة بنى سويف

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أطفال الشوارع هم المجموعة الاجتماعية الأكثر ضعفاً في أي مجتمع. وحجم هذه المشكلة متصاعد، ويرتبط هذا التصاعد بزيادة مستويات الفقر وخاصة في البلدان النامية. كان الهدف من هذه الدراسة تسليط الضوء على مشكلة أطفال الشوارع في مدينة بنى سويف، مع التركيز على الوضع الصحي والاجتماعي لهؤلاء الأطفال من خلال تقييم الحالة الصحية لهؤلاء الأطفال، وتحديد عوامل الخطورة الأكثر شيوعاً، والتي تؤثر على الصحة الجسدية والنفسية والاجتماعية لديهم. شملت الدراسة عينة مكونة من ١٠١ من أطفال الشوارع. تم استخدام الأدوات التالية لجمع البيانات: استمارة مقابلة، قائمة تقييم الحالة البدنية، وقائمة مختبر لتحليل البراز والبول، ومستوى الهيموجلوبين بالدم، وفحوص الالتهاب الكبدي الفيروسي (بي وسي).

أسفرت نتائج الدراسة عما يلي:

- ١- تراوح سن الأطفال بين ٧ و ١٦ سنة.
  - ٢- أغلبية الأطفال كانوا من المدخنين الحاليين
  - ٣- كانت المشاكل الجسدية الأكثر شيوعاً لديهم هي نقص الوزن، وأعراض سوء التغذية، وتسوس الأسنان.
  - ٤- العينة كلها إيجابية في تحليل البراز، بينما ٨٦.١% يعانون من فقر الدم، ٢٤.٨% كانوا إيجابيين لفحوصات الالتهاب الكبدي الفيروسي.
  - ٥- المستقل الوحيد ذا تبين أن العوامل التنبؤية المستقلة ذات الدلالة الإحصائية للإدمان هي جنس الطفل (الذكورة)، والمدة الأطول في الشارع، والتدخين.
  - ٦- كان السن هو العامل التنبؤي ذا الدلالة الإحصائية للإصابة بالالتهاب الكبدي الفيروسي.
- الخلاصة وجدت الدراسة أن أطفال الشوارع هم في الغالب من الذكور الذين تسربوا من المدارس أو لم يلتحقوا قط بالتعليم، مع الظروف العائلية غير المواتية. وأغلبهم منغمسون في التدخين، وتعاطي المخدرات والعنف. توصى الدراسة بعمل تقييم لحجم المشكلة على المستوى الوطني. كما يجب تعزيز دور المنظمات غير الحكومية. أيضاً هناك حاجة لعمل برامج للفحص الطبي لأطفال الشوارع.