Assessment of immunization, educational, nutritional states among homeless children in Tikrit city.

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Abstract

Homelessness or as they called street children in the community, is a term for children experiencing who live on the streets of a city. The screening of this group of society is important to help in providing health care and good education. This study is designed to assess the nutritional state by depending on body mass index measurement, knowledge about immunization and education among homeless children in Tikrit city.

The study is cross section conducted in Tikrit city from March 15 2014 to April 15 2014 which included 60 homeless children chosen randomly. Data collected by direct interview of group members with homeless children, then data presented by simple tables and figures.

The study found that (83.4%) of homeless children were male, and about 32(53.3%) at (6-12) years old. (56.7%) of them had primary education and 26(43.3%) had knowledge about immunization. Finally we conclude that the knowledge of homeless children about PHC role about vaccination was moderately good, their parents were still married, and unemployed. Homeless children lived in crowded houses.

The study recommended to do surveillance for young homeless children, monitoring of school attendance and academic performance, and assessment of mental status for homeless adolescents are recommended to facilitate early identification of problems and delivery of necessary interventions. For young children, providers of health care to the homeless should be well networked into the early intervention in their locality. Given the multiplicity of needs for homeless families, which of course includes help finding affordable housing, health care providers serving this population should also develop linkages with community agencies, including those that can help parents develop the skills necessary for economic self-sufficiency.

Introduction

Over view: Over the last decade, it has been widely acknowledged that families are the fastest growing group in the homeless population in Australia. Today, homeless families are estimated to make up approximately a third of Australia's homeless population [1]. An examination of the statistics related to children is even more alarming, with children who accompany a parent or guardian making up 36% of all people attending SAAP services [1]. The majority of these children are under 12 years of age (over 86%) and almost half are under 5 years of age [1]. Despite these alarming figures, that some have hailed 'a national shame' [2], children within homeless families have largely remained a hidden group.

Children's issues and needs have not been given the consideration that they deserve by researchers and policy makers

alike. Many reports dealing with family homelessness, and indeed service responses to these families, have concentrated on parent's experiences, issues and needs, with children's experiences given little thought and attention. On the other side of the coin, the majority of research into homeless children has largely concentrated on homeless youth experiencing homelessness as individuals. For example, a report completed on Australia's homeless children commonly referred to as the 'Burdekin report' [3], acknowledged that there is a growing number of children who are homeless because the whole family cannot obtain adequate shelter', but excluded these children from their report[3].

Definitions of homelessness: States that one of the few definitive statements that can be made about 'homelessness' as a concept is that it is complex[4], problematic and difficult to define. It therefore seems appropriate to provide a brief outline of the most common definitions that are currently used as a basis for research, policy and service provision on homelessness. The most accepted and pervasive definition in use was developed by Chamberlain and McKenzie in 1992. Chamberlain and McKenzie (1999 cited in Walsh, 2003:19) identified three segments in the homeless population[5]:

1- Primary homelessness People without conventional accommodation, such as those living on the streets, sleeping in parks, squatting in derelict buildings, or using cars or railway carriages for temporary shelter.

2- Secondary homelessness People who move frequently from one form of temporary accommodation to another. This group includes people using emergency accommodation (such as crisis shelters); young people staying in youth refuges; women and children escaping domestic violence (staying in women's refuges); people staying temporarily with other households (because they have no accommodation of their own); and those using boarding houses on an occasional or intermittent basis.

3- Tertiary homelessness People who live in boarding houses on a medium to long-term basis. Residents of private boarding houses do not have a separate bedroom and living room; they do not have kitchen and bathroom facilities of their own; their accommodation is not self-contained; and they do not have security of tenure provided by a lease[5].

The other most widely used definition in is the SAAP service delivery based definition of homelessness. The SAAP definition states that a homeless person is: "A person who does not have access to safe, secure and adequate housing all those liable to: damages, or is likely to damage their health, threatens their safety, failing to provide access to adequate personal amenities and the economic and social supports that a home normally affords, places them in circumstances which threaten or adversely affect the adequacy, safety, security and affordability of that housing. Homeless has no security of tenure that they have no legal right to continued occupation of their home. [5,6]

Roberts explains homelessness to be considered as a multilayered and multidimensional. As such, it requires its own culturally appropriate definition of homelessness by describing the different forms[7]: Spiritual forms of homelessness: relating to separation from traditional land or family, overcrowding: a hidden form of homelessness causing considerable stress for many families and communities, relocation and transient homelessness: resulting in temporary, intermittent and often cyclical patterns of homelessness due to transient and mobile lifestyles, including the necessity to travel to obtain services. Escaping an unsafe or unstable home particularly for women escaping domestic and family violence. In addition to lack of access to any stable shelter: resulting in the worst form of homelessness [7,8].

Characteristics of children: Children who accompany their parents into homelessness appear to be just as likely to be male as female [9]. The most common reason why any person seeks assistance from shelters is domestic violence accounting for over 20% of cases who are females with children [5,9]. The most common reasons cited by all clients for seeking assistance were 'eviction/previous accommodation ended' (16.2%), 'relationship/family breakdown (13%) and 'financial difficulty' (10%) [9].

Effects of homelessness: The trauma and stress of homelessness effects children in different ways and at different developmental stages. However, regardless of age and the other circumstances surrounding the experience, it is now commonly accepted that homelessness has a detrimental impact on the development and general health and wellbeing of children[10].

The findings of the many studies completed with homeless families have particularly emphasized the effect that homelessness has in the following areas of children's life: Health and wellbeing, emotional and behavioral issues, education, social exclusion, family relationships[10].

The long term effects of homelessness on children are health of homeless children suffered many health problems that were found to be directly attributable to their homeless experience. These included (a variety of acute and chronic medical problems; developmental delays; and nutritional deficits)

1. Health and wellbeing: Acute and chronic medical problems: Children experiencing homelessness are sick four times more often than other children. They have four times as many respiratory infections, twice as many ear infections, five times more gastrointestinal problems, and four times more likely to have asthma. [11].

2. Developmental delays: Developmental delays have also been noted as being common among homeless children. A pamphlet produced by the Victorian Children's Resource Program outlines a number of developmental delays that may be found amongst homeless children. These include babies who showing little response when being played with and talked to and they may not smile, and preschoolers having difficulties in speaking [12]. A report on homeless families in South Australia identified that half of the children who are victims of homelessness exhibited major developmental delay[13], while research in the USA has also found that "homeless preschool-aged children are more than three times as likely to manifest developmental delays as low-income, non-homeless children[14].

3. Nutritional deficits: There have been different studies and reports that revealed different opinions about nutritional state of homeless children. In Australia no known studies in that have investigated the link between homeless children and nutritional deficits but number of reports have indicated that the diets of homeless families are generally poorer than the general population[13]. In USA findings found that children and adults were malnourished [15] . Other studies completed in the USA have found that one out of every five homeless children (19%) does not eat enough, other studies noticed that obesity has been documented as the commonest nutritional problem in repeated samples of homeless children[16].

4. Access to health services: Despite suffering poorer health than the general population, homeless families were also found to have less access to preventative and primary health care. Efron and colleagues found that medical assistance was sought on an acute needs basis, rather than health maintenance and prevention[16]. This was thought to be largely due to the increased mobility of these families, a lack of transport and financial difficulties. Another example of the lack of preventative health care was the low immunization rates among homeless children, which places children at more risk of infectious diseases [16,17]. This is also a finding that is consistent with the other research that found immunization rates

among homeless children were far lower than that of the general population[14,15,18] .

5. Emotional and/or behavioral issues: Homeless Children have all experienced disruption, grief and trauma to varying degrees [19]. Therefore, it is not surprising to find that many homeless children suffer from emotional problems and/or behavioral difficulties.

Children usually have different coping mechanisms to adults and children's efforts to manage their experience of homelessness may result in acting-out or aggressive behaviors. Also some children will manage their stressors by becoming withdrawn or shy.

The range of behavioral difficulties found to be more prevalent in homeless children include aggression, hyperactivity and anti-social behavior, sleep disturbances and eating problems. Whereas the range of emotional problems detected by researchers include anxiety, excessive fears, depression, self-harm behavior and anxiety [5]. Efron and colleagues found that children in homeless families are clearly affected psychologically by the crisis of homelessness and the complex issues that have led up to it [16]. The Efron study found that over one-third of children in the study had significant behavioral disturbance, as rated by their parent(s) [16]. Interestingly, there was also a relationship between the number of home moves and the degree of behavioral disturbance. These findings have been confirmed by observations in the small scale study completed by Resolve Community Consulting which found that behavioral problems were prevalent among homeless children[20]. Bartholomew's study in Victoria, Walsh's study completed with families in Queensland also produced similar findings, stating that emotional impacts and behavioral issues for children were consistent themes in focus groups[5]. Studies from the USA have also found high levels of emotional and behavioral problems amongst homeless children, with as many as 38% of children having disorders of clinical significance [21] , specially with the levels of mobility or residential instability experienced by children[5,17].

6. Education: Homelessness has been found to severely restrict children's access to, and full participation in the education system. The main obstacle that homeless children appear to face is the high level of mobility experienced by their families and the consequent disruptions this causes to their schooling [16]. Some international studies were able to confirm this by demonstrating that once housing stability was established children's engagement with, and performance at school improved [17,22,23]. Disrupted schooling among homeless children was characterized by irregular or non-attendance at school and a high level of school transfers. Often all of these factors culminated in children leaving school at a young age. For example, Efron and colleagues found in their study, that over half the school aged children had attended 5 or more different school, and only 3 of the 17 children over 15 years were still attending school [16]. Other studies completed in Australia also emphasized that homeless children endure frequent changes of schools and that they often do not attend school regularly [5,24]. Nunez estimated that it can take between 4-6 months to recover academically from a change of school, while other studies have demonstrated that it may take even longer for children to establish good social relationships within their new school[5]. For example, Strategic Partners found that a number of children expressed concerns in relation to moving schools and the problems associated with settling in to a new one[13]. Therefore, it is easy to see how disrupted schooling can have a direct impact on children's abilities to form supportive relationships with teachers and/or friends[13]. Disrupted schooling also has a direct impact on the academic attainment of children. Many overseas studies have found low levels of literacy among homeless children[5,21,25], with some finding that homeless children are also at greater risk of having to repeat school years [14]. Resolve Community Consulting found that learning difficulties were prevalent among families involved in their study[20]. This is

concerning, as some studies have demonstrated that children with learning difficulties were at a greater risk of falling behind with their schooling when faced with disruptions such as changes of schools or irregular attendance. These children can often fall through the gaps of the education system, with academic and learning delays often left undetected and undiagnosed until they are difficult to reverse [14,26]. Other compounding factors that can impact on homeless children's participation in education were the financial stressors and living conditions that face homeless families. Inadequate finances mean that children are not able to go on extracurricular activities or school excursions and may even not have enough money to buy lunch, whilst the living conditions of homeless families (especially when residing in emergency or temporary accommodation) were also found to negatively affect children's schooling [13,18] .

Children rarely had any privacy or space at home to complete homework and their parents were also less able to help with homework due to their own stressors and/or poor educational background. Therefore, a number of factors combine to affect homeless children's chances of participating in the school system and in gaining an adequate level of education. This not only impacts on children's opportunities and chances in the future, but also works to undermine children's self-esteem and the sense of belonging that the school community offers most children in our society[27].

Aim : Assessing Immunization, education and nutritional state among homeless children in Tikrit city.

Objectives of the study are to:

1-Identify the frequency of homeless children according to their gender, age, nutritional state, immunization and education.

2-Appraise the association between socio-demographic state of homeless children and their knowledge about PHC role about vaccination.

3. Assess the frequency of vaccinated homeless children and frequency of PHC groups attendance to their areas.

4- Evaluate the frequency of homeless children and their parent's marital state and job.

5-Identify the relation between homeless children and crowding index of home, and type of home live in.

6- Identify the frequency of physical violence against of homeless children.

Subject and method

Design of study: This study is cross-section study carried out from the 15th of March to the 15th of April 2014 in Tikrit city.

Sampling : The sample size in our study is 60 homeless children. Those children chosen randomly from the street, the study included any child aged (0-18) years old.

Data collection: Data collected by direct interview of group members with homeless children by using simple questionnaire. Questionnaire includes general information as age, gender, parent's job and marital state, and other information about immunization, and their living. Weight and height measured by group members then body mass index calculated to assess nutritional state for homeless children. Also crowding index calculated by depending on family size and number of rooms. Data presented by simple tables and figures.

Ethical consideration: The permission was taken from children to perform the study to participate for answering on the questionnaire and taking photo for them to use it in our project.

Results

The study was done on 60 children in Tikrit city. The male gender among homeless children was 50(83.4%) and female gender was 10(16.6%), as in figure(1).

There were 34(56.7%) males and 8(13.3%) females know about PHC groups. Table(1)

Age of homeless children was shown to have relationship with knowledge about PHC groups as shown in table(2): among age <6 years 2(3.3%) know about PHC group, among age 6-12 years 32(53.3%) know about PHC group, don't know 12(20%), and 8(13.4%) know about PHC group among age 13-18 years.

Figure 2 show the educational level among homeless children which was 26 (43.3%), 34 (56.7%), and 0(0%) illiterate, primary, and secondary education subsequently.

Table 3 show the relationship between the knowledge about PHC groups and educational level of homeless children about immunization, 16(26.7%) of children who know PHC groups are illiterate, and 26(43.3%) are primary educated. Homeless children asked about receiving of vaccination 40(66.7%) of them said yes as in figure (3). Children also asked if PHC groups attended their areas? There were 42(70%) said yes as in Figure(4).

When BMI measured for homeless children, the study found that 55(91.7%) of them were poor nutrition, and only small proportion about 5 (8.3%) have good nutritional state. Figure(5):

There were only 4(6.7%) exposed to physical violence. Figure (6)

Figure 7 show the marital state of homeless children parents, the result was 58(96.7%) still married and 2(3.3%) were orphan.

Excluding all mothers from the result because no one had a job the result was 44 (73.3%) of fathers have a job, this is shown as in figure(8):

To evaluate home living safety of homeless children, study found that 42(70%) live in house made of clay, and only 18(30%) were live in bricks house, figure(9). Most of homeless children were live in crowded house about 20(33.3%), figure(10).

Discussion

The study compared with few studies because there is limited studies about characteristic of homeless children in Iraq and outside our country, available studies just about how to treat problems of homeless children and very limited information regarding items studied in current study, so this study provided baseline information for demographic characteristics, the nutritional state, immunization and education among homeless children in Tikrit city. It is well known because of cost life are significance and interconnected with their job-seeking responsibilities to get better life to them and their families. Other factor is the belief of effect of sympathy look to the children help in getting money faster.

In this study, frequency of male gender of homeless children was 84%, while female gender frequency was 16%, this result of high percentage of male in comparison to female may be due to their ability to withstand the difficult circumstances of live, while most of females may be help their families in house works. Other study in New York showed that 49% of homeless children were male, this may be because cultural differences between two societies [27].

Table (1) showed that 34(56.7%) of male had knowledge about immunization, and immunization campaigns this may be because of presence of males in the street in comparison to females.

Table (2) showed 44 children out of 60 were within (6-12)years old age group, that 70% of homeless children aged (6-12 year) , this result differs from study done in New York were the mean age of homeless children was 5.4 years this may be because high percentage of infants included in the study who usually were with their mothers in the street, this result assured by other studies that found the typical profile of a homeless family is one headed by a single woman in her late 20s with approximately two children, one or both under 6 years of age [28].

Regarding knowledge of children about PHC vaccination campaigns attending to areas where they live, there were 32(53.3%) of (6-12)years age group have knowledge as in Table (2), but still there were 33.3% of children don't receive vaccine as in figure(2) , it is known that the most frequently reported reasons is due to the wrong thoughts of families about side effects , fear of having

infection of vaccine ,not trust in PHC vaccination campaigns and illiteracy among them , also this can be attributed to the absence of a well organized program of immunization , screening programs of the primary health care centers about vaccination according to the age group and valuable health education guidelines encouraging families to have a vaccination and it's importance .This result agreed with other study about homeless children that revealed a high rate of under-immunization, their data strongly suggested that homeless children did not have access to preventive healthcare [27] .Figure (3) showed that 70% of homeless children assured that PHC groups for immunization visit their areas, this results assured previous interpretation which is the wrong thoughts of families about side effects, fear of having infection of vaccine, not trust in PHC vaccination campaigns and illiteracy among them, also this mean good primary health care services in our governorate especially immunization campaign.

Regarding the education level of homeless children, there were 43.3% illiterate , this is expected due to the nature of their work at time of school at morning and afternoon , may be to the absence of nearby school building and the cost of transference to and from schools. Current results assured previous studies that found the school attendance for homeless children is frequently disrupted because of moves among unstable housing situations and shelters and logistic problems of transportation, obtaining school books and clothes, space to do homework, and so on[27,29].

This study found that 26(43.3%) of homeless children with primary education had better knowledge about vaccination because they obligated on vaccination at school entry or visiting of immunization campaign to their schools as in table(3) .

Important predictor for health assessment of homeless children is nutritional state. Nutritional state assessment in this study depend on body mass index (BMI), that found majority of homeless children 55(91.7%) were underweight (low BMI), this may improve that the spend most of time round in streets without getting enough income of money from this hard work or may their families or how they work foe exploit them without give them a good nutrition. Studies usually emphasized that homeless children had growth delay, poor nutritional state, and stunting without wasting, all these suggestive chronic stress of nutrition [30].

Current result disagreed with other study in America that found 31% of homeless children were obese and only 3% were underweight, this pediatric obesity was due to racial-ethnic disparities but as they referred that obesity and overweight may had iron deficiency anemia or malnutrition. Also high BMI are risk factors for type 2 diabetes and cardiovascular disease[27].

Study information about the physical violence against homeless children had shown that 6.7% had physical violence, while 93.3% of those children had no physical violence , this may be not true as many of homeless children in our culture consider this information confidential and sensitive and may get killed, although such information is valuable and is known to affect screening utilization and so other source of information was not mentioned, like violence from mafias and sexual abuse due to the same cause. Other studies recorded high percentage of violence even physical or psychological, sexual, and exposure to substance abuse among homeless children who exposed to conflict with family and friend, trauma, and other types of violence [31].

Far from violence, this study showed that 70% of children live in a house made of clay only , more interestingly 30% of them live in crowded house , this may be back to the costs of building a new and good living home this improve that large number of them with low BMI due to poor nutritional and environmental state, so 73% of them were working as driver or free work ,although there was 27% of their parents not working may be depended on their children work in the streets. It has been estimated in this result that 96% of their mother and father still married, the interpretations of marital state of homeless parents with the dangerous work in

the streets not confined to orphan children it's present also in married families all that to cover the hard live. In addition, married parents usually had large families may because they did not have enough health education about family planning program and it's healthy effect on maternal and children health. Many parents had wrong thoughts that large number of children important because each child will be source of income in the future then the family will improve their living.

Conclusion

1. High percentage of homeless children were males (83%), and (56.7 %) had knowledge about PHC group of immunization.
2. Moderate percentage (70%) of homeless children were (6-12) aged ,and (53%) had knowledge about PHC group of immunization.
3. (50%) of homeless children had primary educational level, were (43%) of them had knowledge about PHC group of immunization.
4. Highest percentage (91%) of homeless children complained from poor nutrition.
5. Most of children parents were still married (96%).
6. High percentage of homeless children (70%) were live in hose made of clay, and (33%) of them live in crowded houses.

Recommendation

To the government: Increasing the supply of affordable housing.

To the ministry of health:

-Establishment of specialized resource centers in different governorates in Iraq to prompt and integrate homeless children prevention programs .

-Health worker's should intensify health education on the importance of vaccination and screening of health state in homeless.

To the ministry of higher education: It should give more interest in this group of society and facilitates researches in different aspect as medical, psychological, sociological and other aspects.

To non governmental organization (NGOs) to play their role in assistance of this group in population, as in some source of support to cover expenses poor economic state of homeless children.

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Tables and figures

Table (1): Relation between gender of homeless children and knowledge about immunization**.**

Knowledge/gender	PHC groups				Total
	Know		Don't know		
	Number	%	Number	%	
Male	34	56.7	16	26.7	50
Female	8	13.3	2	3.3	10
Total	42		18		60

Table(2): Relation between age groups of homeless children and knowledge about immunization

	PHC group knowledge				
Age	**Have knowledge**		**know nothing**		**Total**
	Num.	**%**	**Num.**	**%**	
<6	**2**	**3.3**	**4**	**6.7**	**6**
6-12	**32**	**53.3**	**12**	**20**	**44**
13-18	**8**	**13.4**	**2**	**3.3**	**10**
Total	**42**		**18**		**60**

Table(3): Relation between educational level of homeless children and knowledge about immunization

Knowledge/education	**PHC groups**				Total
	Know		Don't know		
	Num.	%	Num.	%	
lliterate	16	26.7	10	16.7	26
primary	26	43.3	8	13.3	34
Total	42		18		60

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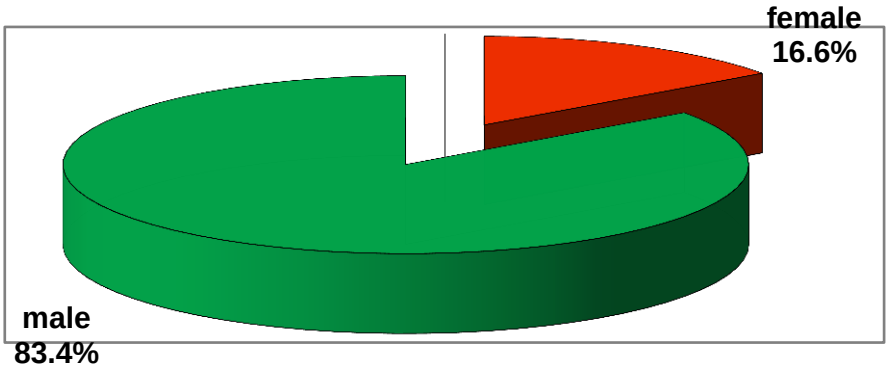
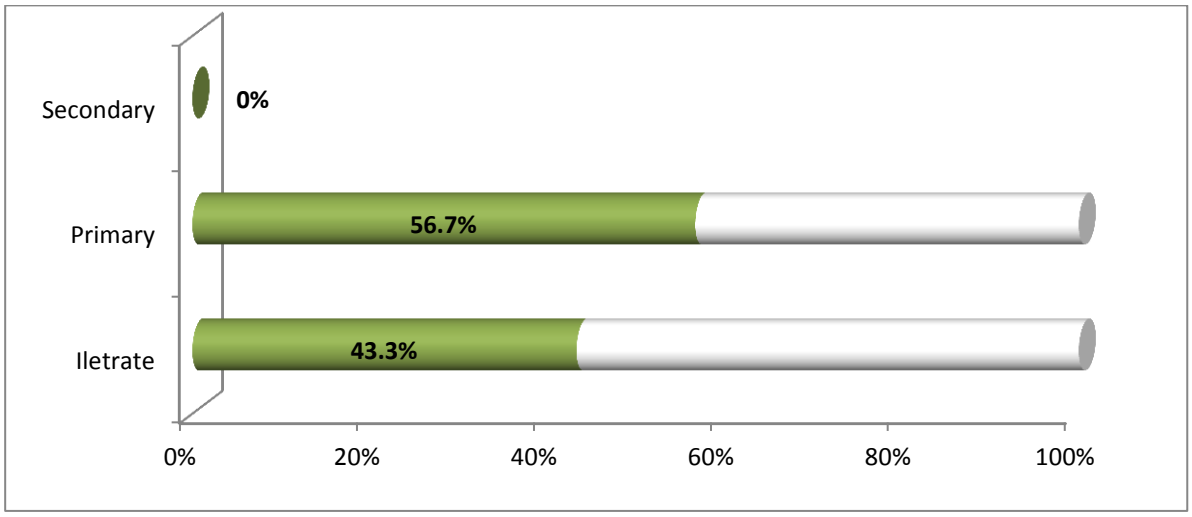
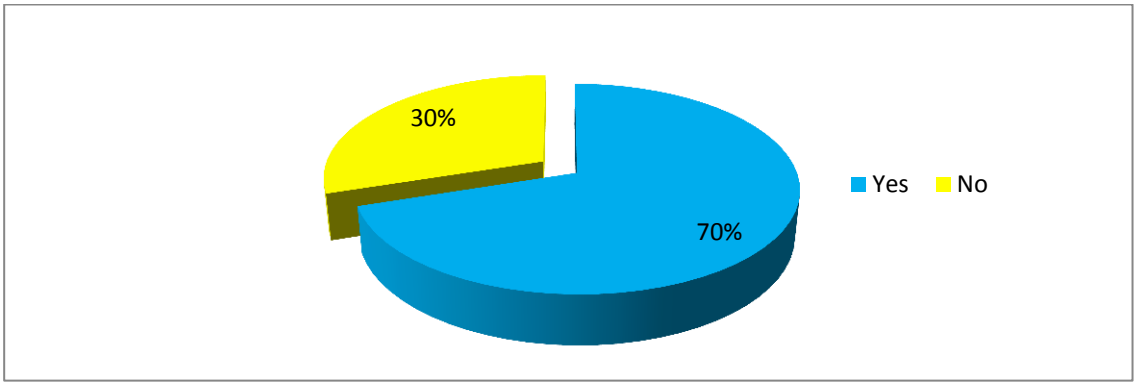


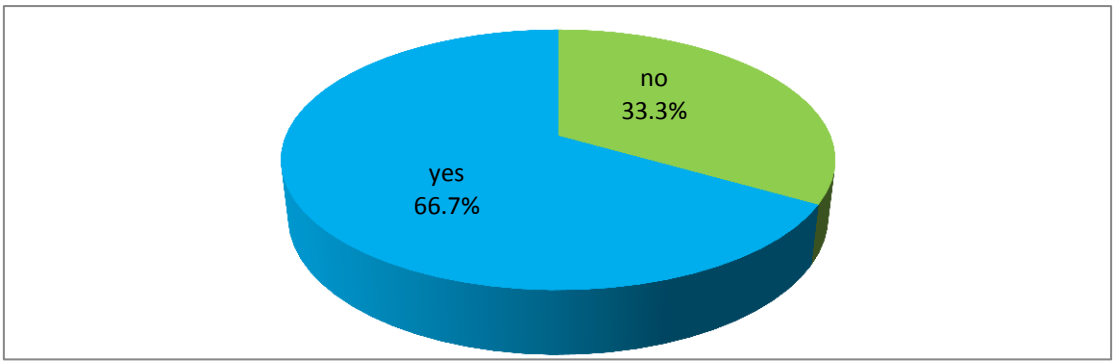
Figure(1): Frequency of homeless children according to gender.



Figure(2): Relation between homeless children and educational level**.**



Figure(3): Frequency of vaccinated homeless children



Figure(4): Attending of primary health groups -immunization campaign- to their living areas.

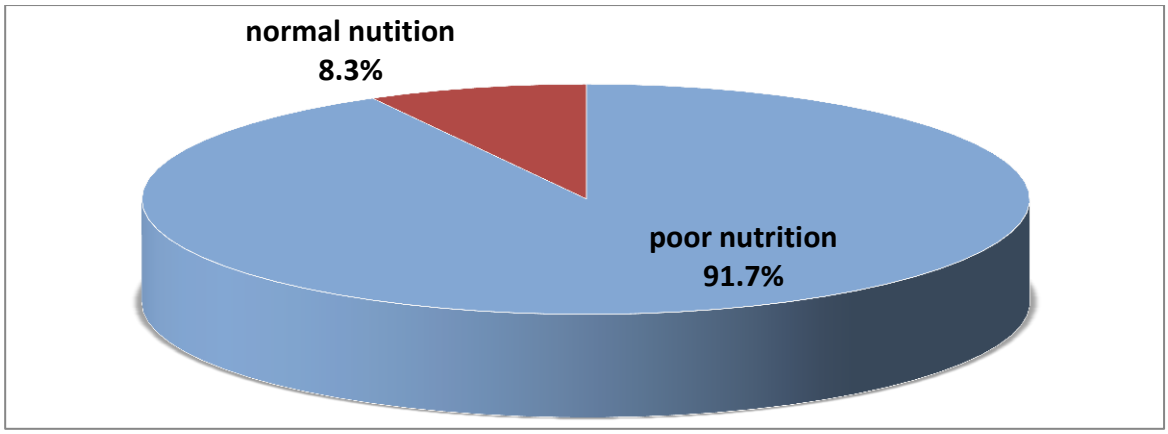
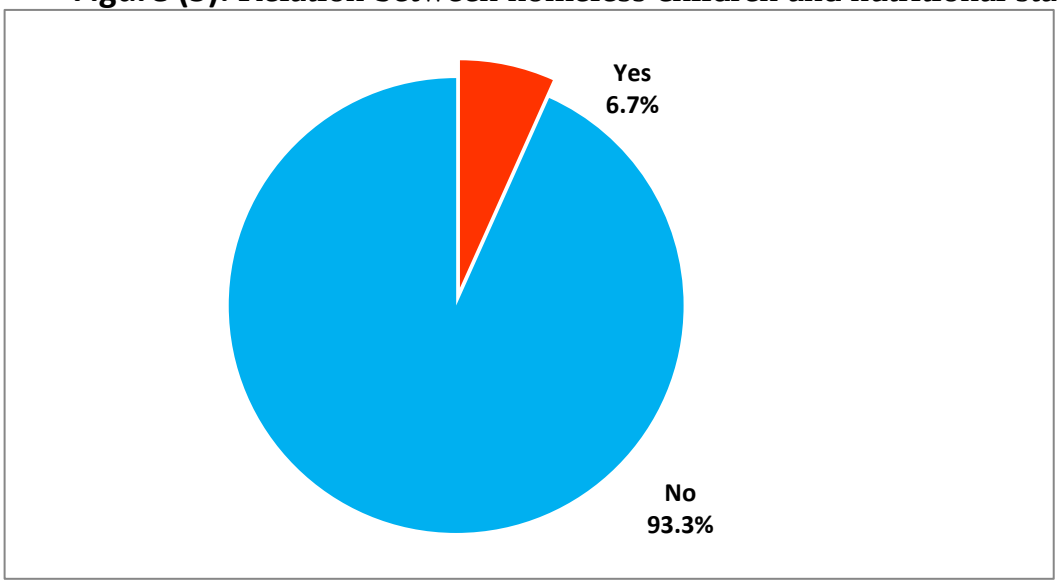
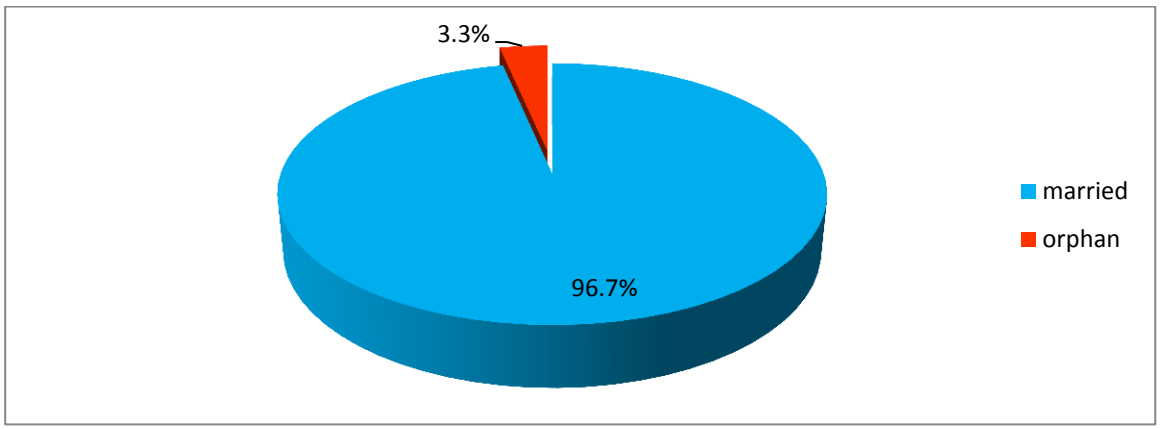


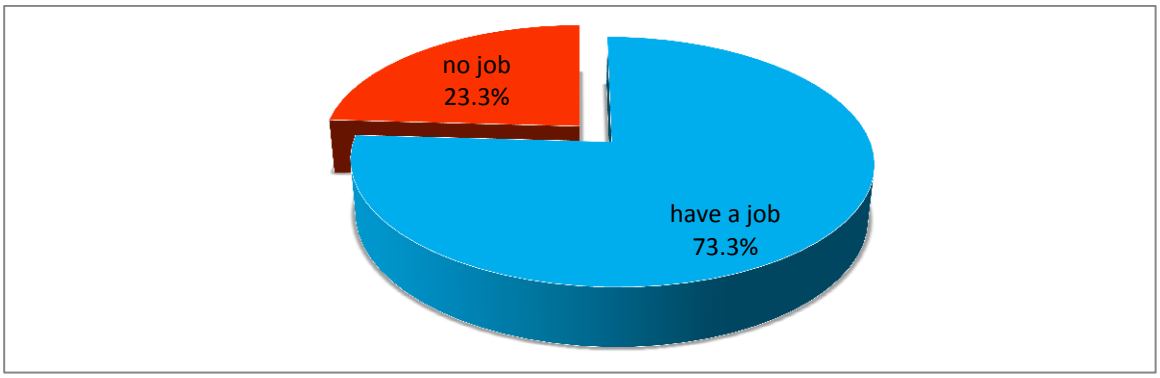
Figure (5): Relation between homeless children and nutritional state.



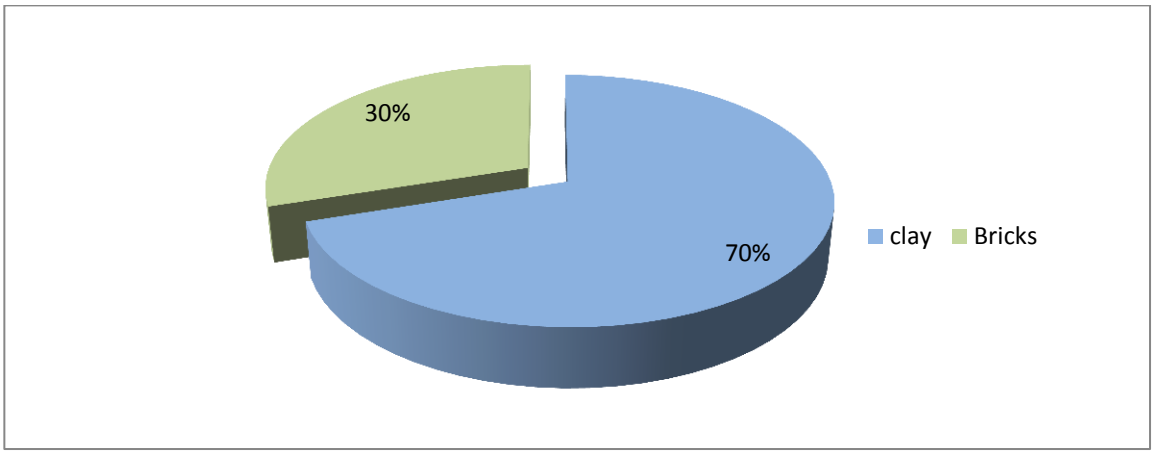
Figure(6): Frequency of physical violence against homeless children.



Figure(7): Frequency of marital state of homeless children parents**.**



figure(8): Homelessness children parents job**.**



Figure(9): Home type of homeless children

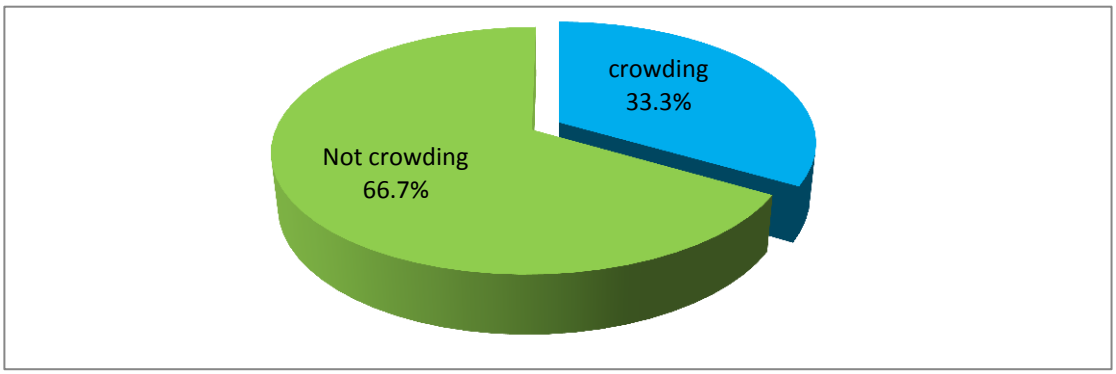


Figure (10): Crowding index in homeless children houses**.**