

Health status and health needs of orphan children in Kathmandu, Nepal

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Abstract

Introduction	The first children's home in Nepal was established more than 100 years ago. There were very few child homes until 1990. However, their numbers have dramatically increased in the recent years. Since there has been no systematic study of health status and health needs of orphan children, the proposed study was carried out to fill this information gap.
Objectives	To describe the health problems among orphan children of Kathmandu valley, Nepal and important causes of becoming orphan
Methods	The cross-sectional descriptive study was carried out in purposely selected 22 orphan centers covering of Kathmandu valley. Health related information on individual children less than 18 years was collected. Altogether information on 536 children was collected.
Results	Ninety three percent children were found sick during the study period. There were children who suffered with waterborne disease (19.4%), skin disease (13.4%), coughing problem (22.2%), disability (12%), eye/ENT problem (12%), dental problem (8%), malnutrition (65.3%) and other health problems (<5%). There is a significant difference observed between male and female children suffering with the types of malnutrition distribution. Similar result is also found in their age, caste and religion distribution. Significant differences were found between male and female children suffering with disability. Similar result is also found in their caste and religion distribution. Significant difference is also observed between pre-primary, primary and lower secondary and above education holders suffering with dental problem.
Conclusion	Major health problems among orphan children of Kathmandu are waterborne disease, skin disease, eye/ENT, coughing, malnutrition, disability and general sickness, and the most important cause of becoming orphan was parent death.
Key words	Health problem, Orphan children, Orphan home.

Introduction

Present day children's homes are the modern day version of the orphanages of the past. There was a rapid increase in the number of children's homes, especially after the First World War. This was necessitated by the large scale displacement and hardships of the people in several countries due to the war¹.

In Nepal, the first children's home which was established formally in 1953 was known as 'Paropkar Anathalaya'. Similar homes called "Dudh Khane Bachha Palne Adda" (office for care of

infants) and "Charitable Society" was started informally in 1919 and 1904 in Sifal and Tribureshwor of Kathmandu district, respectively. Besides this, children's home called "Handikhane Pathsala" which started informally in 1914, is now one of the leading formal children's home in Biratnagar².

Anecdotal information provides a picture of an increasing number of children's homes in the urban areas in recent years, especially in the Kathmandu valley, where the number of children from outlying districts and specifically those impacted by the

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insurgency is increasing at an alarming rate³. However, the situations of their health problems have not been assessed properly. The main objectives of the study were to describe the health problems among orphan children of Kathmandu valley, Nepal and important causes of becoming orphan.

Methods

Cross-sectional descriptive study was adopted to carry out the study in 2006. The specific areas identified for this study was the Kathmandu district. There were 22 orphan centers purposively selected for the study (Table A). These areas were selected because most of these centers (children's homes) were expected to be located there. All of those selected children's homes in the district were visited. Five hundred thirty six children (males 353 and females 183) were included for the study purpose from 22 orphan centers existed in the Kathmandu district. This study considers only children below 18 years of age for whom detailed health related information was collected. The children's homes in the study areas were identified through the review of lists of orphan centers prepared by the central level supporting institutions which are comprised of

both government and non-government organizations such as Ministry of Women, Children and Social Welfare, Ministry of Local Development, Social Welfare Council, UNICEF, Child Workers in Nepal Concern Center, Child NGO Federation, etc.

About 30 percent of the orphan children from Kathmandu district were covered by the study. Data for the study was collected through individual interviews, review of records and direct observations and measurements. Informed consent was taken before data collection. Nepal Health Research Council provided the ethical permission to carry out the study in the field settings.

Data were collected in quantitative and quantifiable qualitative form. These data sets were entered into the computer in data entry pack of SPSS software and edited. Ninety five percent of significant difference was used for level of significance. Descriptive statistic such as frequency distribution and mean were used to describe the general characteristics of the sampled population. Chi-square test was applied for significant difference between socio-demographic factors and health problems.

Table A: Distribution of sampled orphan children in different Orphan Centers in Kathmandu valley

S.N.	Names of Orphan Centers	Male n	Female n	Total n
1.	Bal Asha Kendra	3	4	7
2.	Bal Balika Shahavog Nepal	7	0	7
3.	Bal Batawaran Nepal	6	1	7
4.	Om Sai Ram Bikash	9	3	12
5.	Survodava Anathalava	17	1	18
6.	Nepal Bal Griha	10	4	14
7.	Nepalma Bhavaka Anath Balbalika Sudar Kendra	14	8	22
8.	Shahara International	12	8	20
9.	Anath Bal Sadak Punarsthapana Kendra	15	5	20
10.	Manabiva Sarokar Kendra	24	8	32
11.	Umbrella Organization	21	11	32
12.	Sri Matri Nepal Apang Sang	21	15	36
13.	Pabitra Sang	13	5	18
14.	Parbananda Ashram	47	3	50
15.	Naba Yuva Bal Sudhar Sang	26	12	38
16.	Shersang Orphanage	8	1	9
17.	Child Heaven	7	8	15
18.	Nepal Children Organization	22	9	31
19.	Buddha Academy	39	35	74
20.	Nepal Bon Community School	12	18	30
21.	Bright Horizon Children	7	7	14
22.	Maiti Nepal	13	17	30
	Total	353	183	536
		(65.9%)	(34.1%)	

Results

Table 1: Univariate analysis of continuous variable

Variable	Min	Max	Mean	SD
Age	3	18	9.9	2.96
Height (cm)	45	168	126.2	16.6
Weight (kg)	9	62	27.27	9.21
Duration of sleeping (hrs)	3	13	9.2	1.11
Time of going for sleeping (pm)	6	12		
Time of getting up (am)	2	8		
Time of morning meal (am)	5:35	12:45		
Time of evening meal (pm)	5:00	12:00		

The minimum and maximum ages of sampled population were 3 and 18 years respectively. Their height was measured in centimetre and found to be in the range of 45 to 168 cm. Similarly, the weight of the children was found in the range of 9 to 62 kilograms. The mean duration of their sleeping was measured as 9

hours 20 minutes. They went on sleeping after 6 pm onwards and all of them found slept at 12 pm. It was found that some children got up very early in the morning while some slept till 8 am. They took their morning and evening meal in the range of 5:35 am to 12:45 pm and 5:00 pm to 12:00 pm respectively (table 1).

Table 2: Major reasons of becoming orphan

Reasons of Death of Parent	Male (n=353)		Female (n=183)		Total (N=536)		P value ^b
	n	% ^a	n	% ^a	n	% ^a	
Economical	203	57.5	94	51.4	297	55.4	0.007
Natural Disaster	80	22.7	31	16.9	111	20.7	
Conflict, Accident and others	70	19.8	58	31.7	128	23.9	

a: Column percentage to indicate the distribution of major reasons of becoming orphan

b: Compare the significance difference between male and female

Most of the children (55.4%) became orphan due to poor economical condition of their parent while rest became orphan because of natural disaster, conflict and accidental reasons. Significant differences were found between male and female orphan children in their reasons of becoming orphan distribution (table 2). Major health problems such as waterborne disease, skin disease, hepatitis, HIV/AIDS, eye/ENT, respiratory, coughing, trauma/injury/burn, heart, orthopedic, mental, malnutrition, disability and sickness among sampled children were assessed.

Majority of children (93%) were found to be sick during the study period. There were 19.4 percent of children who suffered with waterborne disease while 13.4 percent children suffered with skin disease. Coughing problem was found among 22.2 percent children. Nearly 12 percent children were suffered with disability and eye and ENT problem. It was also found out that 8 percent children were suffered with dental problem. Nearly one third of the children

suffered with some form of malnutrition (first degree 35%, second degree 22% and third degree 8%). Rest other problems were found among less than or around 5 percent of the children.

There is strong evidence against null hypothesis of no association between male and female children suffering with the types of malnutrition distribution (table 3.1). Similar result is also found in their age (table 3.2), caste (table 3.4) and religion (table 3.5) distribution. There is a significant difference observed between male and female children suffering with disability (table 3.1). Similar result is also found in their caste (table 3.4) and religion (table 3.5) distribution. Significant difference is also observed between pre-primary, primary and lower secondary and above education holders suffering with dental problem (table 3.3).

Weak evidence is also observed against null hypothesis of no association between male and female children

in their sickness status (table 3.1). Rest other health problems are not found statistically significant (table 3.1, 3.2, 3.3, 3.4 and 3.5).

Table 3.1: Distribution of health problems among orphan children categorized by sex

Health Problems	Male (n=353)		Female (n=183)		Total (N=536)		P value ^b
	n	% ^a	N	% ^a	N	% ^a	
Waterborne Disease							
Yes	64	18.13	40	21.86	104	19.40	0.301
No	289	81.87	143	78.14	432	80.60	
Skin Diseases							
Yes	47	13.31	25	13.66	72	13.43	0.911
No	306	86.69	158	86.34	464	86.57	
Hepatitis Disease							
Yes	14	3.97	8	4.37	22	4.10	0.822
No	339	96.03	175	95.63	514	95.90	
HIV/AIDS Disease							
Yes	5	1.42	0	0.00	5	0.93	0.106
No	348	98.58	183	100.00	531	99.07	
Dental Problem							
Yes	29	8.2	15	8.2	44	8.2	0.994
No	324	91.8	168	91.8	492	91.2	
Eve/ENT Problem							
Yes	42	11.90	22	12.02	64	11.94	0.967
No	311	88.10	161	87.98	472	88.06	
Respiratory Problem							
Yes	19	5.38	12	6.56	31	5.8	0.581
No	334	94.62	171	93.44	505	94.2	
Coughing Problem							
Yes	84	23.80	35	19.13	119	22.20	0.217
No	269	76.20	148	80.87	417	77.80	
Trauma Injury and Burn Problem							
Yes	13	3.68	11	6.01	24	4.48	0.217
No	340	96.32	172	93.99	512	95.52	
Heart Problem							
Yes	5	1.42	2	1.09	7	1.31	0.754
No	348	98.58	181	98.91	529	98.69	
Orthopedic Problem							
Yes	3	0.85	0	0.00	3	0.56	0.211
No	350	99.15	183	100.00	533	99.44	
Mental Problem							
Yes	5	1.42	2	1.09	7	1.31	0.754
No	348	98.58	181	98.91	529	98.69	
Malnutrition							
Normal	82	23.23	104	56.83	186	34.70	0.001
1 ^o degree	135	38.24	53	28.96	188	35.07	
2 ^o degree	98	27.76	22	12.02	120	22.39	
3 ^o degree	38	10.76	4	2.19	42	7.84	
Status of having disability							
Yes	34	9.63	30	16.39	64	11.94	0.022
No	319	90.37	153	83.61	472	88.06	
Status of getting sickness							
Yes	333	94.33	165	90.16	498	92.91	0.074
No	20	5.67	18	9.84	38	7.09	

a: Column percentage to indicate the distribution of health problems

b: Compare the significance difference between male and female

Table 3.2: Distribution of health problems among orphan children categorized in age groups

Health Problems	10 and above yrs (n=315)		5 and below 10 yrs (n=171)		Below 5 yrs (n=50)		Total (N=536)		P value ^b
	N	% ^a	n	% ^a	n	% ^a	N	% ^a	
Waterborne Disease									
Yes	64	20.3	32	18.7	8	16.0	104	19.4	0.744
No	251	79.7	139	81.3	42	84.0	432	80.6	
Skin Diseases									
Yes	40	12.7	23	13.5	9	18.0	72	13.4	0.594
No	275	87.3	148	86.5	41	82.0	464	86.6	
Hepatitis Disease									
Yes	11	3.5	6	3.5	5	10.0	22	4.1	0.088
No	304	96.5	165	96.5	45	90.0	514	95.9	
HIV/AIDS Disease									
Yes	4	1.3	1	0.6	0	0	5	0.9	0.582
No	311	98.7	170	99.4	50	100	531	99.1	
Dental Problem									
Yes	26	8.3	14	8.2	4	8	44	8.2	0.998
No	289	91.7	157	91.8	46	92	492	91.2	
Eve/ENT Problem									
Yes	36	11.4	22	12.9	6	12.0	64	11.9	0.897
No	279	88.6	149	87.1	44	88.0	472	88.1	
Respiratory Problem									
Yes	17	5.4	12	7.0	2	4.0	31	5.8	0.652
No	298	94.6	159	93.0	48	96.0	505	94.2	
Coughing Problem									
Yes	75	23.8	33	19.3	11	22.0	119	22.2	0.520
No	240	76.2	138	80.7	39	78.0	417	77.8	
Trauma, Injury and Burn Problem									
Yes	18	5.7	6	3.5	0	0	24	4.5	0.146
No	297	94.3	165	96.5	100	100	512	95.5	
Heart Problem									
Yes	4	1.3	3	1.8	0	0	7	1.3	0.628
No	311	98.7	168	98.2	50	100	529	98.7	
Orthopedic Problem									
Yes	3	1.0	0	0	0	0	3	0.6	0.347
No	312	99.0	171	100	50	100	533	99.4	
Mental Problem									
Yes	3	1.0	3	1.8	1	2.0	7	1.3	0.684
No	312	99.0	168	98.2	49	98.0	529	98.7	
Malnutrition									
Normal	107	34.0	49	28.7	30	60.0	186	34.7	0.001
1 ^o degree	91	28.9	84	49.1	13	26.0	188	35.1	
2 ^o degree	82	26.0	33	19.3	5	10.0	120	22.4	
3 ^o degree	35	11.1	5	2.9	2	4.0	42	7.8	
Status of having disability									
Yes	40	12.7	18	10.5	6	12.0	64	11.9	0.780
No	275	87.3	153	89.5	44	88.0	472	88.1	
Status of getting sickness									
Yes	296	94.0	157	91.8	45	99.0	498	92.9	0.474
No	19	6.0	14	8.2	5	10.0	38	7.1	

a: Column percentage to indicate the distribution of health problems

b: Compare the significance difference between age groups of 10 and above years, 5 and below years and below 5 years.

Table 3.3: Distribution of health problems among orphan children categorized into their educational status

Health Problems	Lower secondary and above (n=93)		Primary (n=304)		Pre-primary (n=139)		Total (N=536)		P value ^b
	N	% ^a	n	% ^a	n	% ^a	N	% ^a	
Waterborne Disease									
Yes	20	21.5	57	18.8	27	19.4	104	19.4	0.841
No	73	78.5	247	81.2	112	80.6	432	80.6	
Skin Diseases									
Yes	15	16.1	38	12.5	19	13.7	72	13.4	0.665
No	78	83.9	226	87.5	120	86.3	464	86.6	
Hepatitis Disease									
Yes	1	1.1	14	4.6	7	5.0	22	4.1	0.263
No	92	98.9	302	99.3	137	98.6	531	99.1	
HIV/AIDS Disease									
Yes	1	1.1	2	0.7	2	1.4	5	0.9	0.721
No	92	98.9	302	99.3	137	98.6	531	99.1	
Dental Problem									
Yes	14	15.1	19	6.3	11	7.9	44	8.2	0.025
No	79	84.9	285	93.7	128	92.1	492	91.2	
Eve/ENT Problem									
Yes	10	10.8	39	12.8	15	10.8	64	11.9	0.768
No	83	89.2	265	87.2	124	89.2	472	88.1	
Respiratory Problem									
Yes	4	4.3	15	4.9	12	8.6	31	5.8	0.241
No	89	95.7	289	95.1	127	91.4	505	94.2	
Coughing Problem									
Yes	14	15.1	77	25.3	28	20.1	119	22.2	0.090
No	79	84.9	227	74.7	111	79.9	417	77.8	
Trauma, Injury and Burn Problem									
Yes	7	7.5	14	4.6	3	2.2	24	4.5	.0151
No	86	92.5	290	95.4	136	97.8	512	95.5	
Heart Problem									
Yes	0	0	6	2.0	1	.07	7	1.3	0.265
No	93	100	298	98.0	138	99.3	529	98.7	
Orthopedic Problem									
Yes	1	1.1	1	0.3	1	0.7	3	0.6	0.671
No	92	98.9	303	99.7	138	99.3	533	99.4	
Mental Problem									
Yes	1	1.1	4	1.3	2	1.4	7	1.3	0.972
No	92	98.9	300	98.7	137	98.6	529	98.7	
Malnutrition									
Normal	29	31.2	109	35.9	48	34.5	186	34.7	0.480
1 ^o degree	34	36.6	98	32.2	56	40.3	188	35.1	
2 ^o degree	21	22.6	70	23.0	29	20.9	120	22.4	
3 ^o degree	9	9.7	27	8.9	6	4.3	42	7.8	
Status of having disability									
Yes	14	15.1	35	11.5	15	10.8	64	11.9	0.581
No	79	84.9	269	88.5	124	89.2	472	88.1	
Status of getting sickness									
Yes	83	89.2	285	93.8	130	93.5	498	92.9	0.317
No	10	10.8	19	6.3	9	6.5	38	7.1	

a: Column percentage to indicate the distribution of health problems

b: Compare the significance difference between the educational status of lower secondary and above, primary and pre-primary.

Table 3.4: Distribution of health problems among orphan children categorized into their cast types

Health Problems	Brahamin / Chhetri (n=155)		Janaiaati (n=332)		Dalits and others (n=49)		Total (N=536)		P value ^b
	N	% ^a	n	% ^a	n	% ^a	N	% ^a	
Waterborne Disease									
Yes	28	18.1	65	19.6	11	22.4	104	19.4	0.769
No	127	81.9	267	80.4	38	77.6	432	80.6	
Skin Diseases									
Yes	23	14.8	41	12.3	8	16.3	72	13.4	0.621
No	132	85.2	291	87.7	41	83.7	464	86.6	
Hepatitis Disease									
Yes	5	3.2	15	4.5	2	4.1	22	4.1	0.799
No	150	96.8	317	95.5	47	95.9	514	95.9	
HIV/AIDS Disease									
Yes	2	1.3	3	0.9	0	0	5	0.9	0.712
No	153	98.7	329	99.1	49	100	531	99.1	
Dental Problem									
Yes	16	10.3	26	7.8	2	4.1	44	8.2	0.352
No	139	89.7	306	92.2	47	95.9	492	91.2	
Eve/ENT Problem									
Yes	20	12.9	41	12.3	3	6.1	64	11.9	0.413
No	135	87.1	291	87.7	46	93.9	472	88.1	
Respiratory Problem									
Yes	10	6.5	17	5.1	4	8.2	31	5.8	0.636
No	145	93.5	315	94.9	45	91.8	505	94.2	
Coughing Problem									
Yes	33	21.3	73	22.0	13	26.5	119	22.2	0.735
No	122	78.7	259	78.0	36	73.5	417	77.8	
Trauma, Injury and Burn Problem									
Yes	5	3.2	16	4.8	3	6.1	24	4.5	0.616
No	150	96.8	316	95.2	46	93.9	512	95.5	
Heart Problem									
Yes	2	1.3	5	1.5	0	0	7	1.3	0.687
No	153	98.7	327	98.5	49	100	529	98.7	
Orthopedic Problem									
Yes	2	1.3	1	0.3	0	0	3	0.6	0.339
No	153	98.7	331	99.7	49	100	533	99.6	
Mental Problem									
Yes	3	1.9	3	0.9	1	2.0	7	1.3	0.577
No	152	98.1	329	99.1	48	98.0	529	98.7	
Malnutrition									
Normal	42	27.1	130	39.2	14	28.6	186	34.7	0.004
1 ^o degree	51	32.9	121	36.4	16	32.7	188	35.1	
2 ^o degree	46	29.7	63	19.0	11	22.4	120	22.4	
3 ^o degree	16	10.3	18	5.4	8	16.3	42	7.8	
Status of having disability									
Yes	27	17.4	32	9.6	5	10.2	64	11.9	0.044
No	128	82.6	300	90.4	44	89.8	472	88.1	
Status of getting sickness									
Yes	143	92.3	308	92.8	47	95.9	498	92.9	0.676
No	12	7.7	24	7.2	2	4.1	38	7.1	

a: Column percentage to indicate the distribution of health problems

b: Compare the significance difference between their cast types of Brahamin/Chhetri, Janaiaati and Dalits and others

Table 3.5: Distribution of health problems among orphan children categorized into their religion types

Health Problems	Buddhist (n=244)		Hindu (n=237)		Others (n=55)		Total (N=536)		P value ^b
	N	% ^a	n	% ^a	n	% ^a	N	% ^a	
Waterborne Disease									
Yes	48	19.7	45	19.0	11	20.0	104	19.4	0.975
No	196	80.3	192	81.0	44	80.0	432	80.6	
Skin Diseases									
Yes	29	11.9	33	13.9	10	18.2	72	13.4	0.445
No	215	88.1	204	86.1	45	81.8	464	86.6	
Hepatitis Disease									
Yes	13	5.3	5	2.1	4	7.3	22	4.1	0.094
No	231	94.7	232	97.9	51	92.7	514	95.9	
HIV/AIDS Disease									
Yes	2	0.8	3	1.3	0	0	5	0.9	0.658
No	242	99.2	234	98.7	55	100	531	99.1	
Dental Problem									
Yes	24	9.8	16	6.8	4	7.3	44	8.2	0.452
No	220	90.2	221	93.2	51	92.7	492	91.2	
Eve/ENT Problem									
Yes	32	13.1	25	10.5	7	12.7	64	11.9	0.674
No	212	86.9	212	89.5	48	87.3	472	88.1	
Respiratory Problem									
Yes	14	5.7	15	6.3	2	3.6	31	5.8	0.742
No	230	94.3	222	93.7	53	96.4	505	94.2	
Coughing Problem									
Yes	48	19.7	62	26.2	9	16.4	119	22.2	0.126
No	196	80.3	175	73.8	46	83.6	417	77.8	
Trauma, Injury and Burn Problem									
Yes	11	4.5	10	4.2	3	5.5	24	4.5	0.923
No	233	95.5	227	95.8	52	94.5	512	95.5	
Heart Problem									
Yes	3	1.2	3	1.3	1	1.8	7	1.3	0.939
No	241	98.8	234	98.7	54	98.2	529	98.7	
Orthopedic Problem									
Yes	0	0	2	0.8	1	1.8	3	0.6	0.194
No	244	100	235	99.2	54	98.2	533	99.4	
Mental Problem									
Yes	1	0.4	4	1.7	2	3.6	7	1.3	0.128
No	243	99.6	233	98.3	53	96.4	529	98.7	
Malnutrition									
Normal	97	39.8	71	30.0	18	32.7	186	34.7	0.002
1 ^o degree	88	36.1	73	30.8	27	49.1	188	35.1	
2 ^o degree	46	18.9	66	27.8	8	14.5	120	22.4	
3 ^o degree	13	5.3	27	11.4	2	3.6	42	7.8	
Status of having disability									
Yes	19	7.8	37	15.6	8	14.5	64	11.9	0.025
No	225	92.2	200	84.4	47	85.5	472	88.1	
Status of getting sickness									
Yes	227	93.0	222	93.7	49	89.1	498	92.9	0.489
No	17	7.0	15	6.3	6	10.9	38	7.1	

a: Column percentage to indicate the distribution of health problems

b: Compare the significance difference between their religion types of Buddhist, Hindu and others.

Discussions

This study has explored many issues on orphans who are living in orphanages in the Kathmandu district. The study indicated that most of the children (93%) were found to be sick during the study period. This may be the result of unhygienic/sanitary conditions for the children in the orphanages. Other important reasons were unhealthy eating habits and irregular sleeping time. Other study showed contrary to this finding⁴.

Both communicable and non communicable diseases were identified in the orphanages of Kathmandu district. Water-borne, air-borne and skin diseases were identified as part of the communicable diseases while orthopedic, ENT, dental, heart problem and disability were found as non-communicable diseases. Water-borne and air-borne diseases were found to be spreading seasonally. Mental diseases (psychological rarely), different types of health impairment, communicable diseases like hepatitis "B", and HIV/AIDS have been detected (in small numbers) among the children. These children might carry HIV infection from their parents.

It was found out that waterborne disease (19.4%) was a frequently encountered problem among children. This may be because of not properly washing their hand before meal and drinking unhygienic water. Other problem found out was 13.4 percent children suffering from skin disease which was because of not taking bath regularly, lack of cleanliness, and less consumption of food supplements like Vitamin A and milk. This is relatively the same finding compared to the national estimates⁵ which indicated that skin disease was the number one disease in Nepal and water borne disease was again number one among children.

Furthermore, it was reported that 22.2 percent children were suffering from coughing problem. This might be because of their exposure towards dusty environment since some orphanages were situated near the factory.

Nearly 12 percent children were suffered with disability which included physical handicaps and mental retardation. This may be due to not having Polio vaccine, and getting physical troubles by care givers in the orphan homes. Similar percent of children were also suffered with eye and ENT problem. This may be due to not taking bath regularly, not keeping cleanliness, and the consumption of less food supplements like Vitamin A, milk and fruits. This is relatively more compared to the national estimates⁵.

It was indicated that nearly one third of the children suffered with some form of malnutrition (first degree 35%, second degree 22% and third degree 8%). This may be because of not eating proper diet and not involving in extracurricular activities. The study conducted in Pakistan also showed the similar findings⁶ but the findings did not correspond to national estimates⁷.

It was also found out that 8 percent children were suffered with dental problem which might be correlated with their tooth brushing practices.

It was indicated that there is a significant difference observed between male and female orphan children in their reasons of becoming orphan distribution such as death of their parent, economical, natural disaster, conflict and accidental reasons. This may be due to socio-cultural, environmental and political aspects of Nepalese context. However, most of the children (55.4%) became orphan due to poor economic condition of their parent.

It was also reported that there is a significant difference observed between male and female children suffering with the types of malnutrition distribution. This was due to the differences in body structure and development pattern between the sexes. Similar result is also found in their age, caste and religion distribution. Study conducted in Malawi⁸ showed that orphan children over the age of 5 years were less stunted and wasted than orphans and non-orphans in village setting.

It was also indicated that there is a significant difference observed between male and female children suffering with disability. This may be due to socio-cultural aspects of Nepalese context. Similar result is also found in their caste and religion distribution.

It was observed that significant difference is also observed between pre-primary, primary and lower secondary and above education holders suffering with dental problem. This may be due to increasing their knowledge level regarding for caring their dental problem.

Conclusion

It is concluded that the major health problems among orphan children of Kathmandu are waterborne disease, skin disease, hepatitis, HIV/AIDS, eye/ENT, respiratory, coughing, trauma/injury/burn, heart, orthopedic, mental, malnutrition, disability and general sickness.

It is also concluded that the important causes of becoming orphan were economical, natural disaster, conflict and accidental reasons.

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