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Research Article

Residential Status and Perceived Attitude towards Children with Non-Communicable Diseases in Ghana

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Abstract

Background: Non-Communicable Diseases (NCDs) have become quite prevalent worldwide. In Ghana as in other developing countries, NCDs are major public health concern. Even though modern health services have been sought by patients suffering from NCDs, poor attitude to those suffering from them exist in Ghanaian society because of traditional beliefs about the causes of such diseases. This paper examines parents and care givers' perceived attitudes of Ghanaians towards NCDs among children.

Methods: The study was conducted among 700 participants in three regions (Greater Accra, Ashanti and Volta) of Ghana in both rural and urban areas, using a quantitative research instrument. All the major ethnic groups of Ghana- Akan, Ewe, Ga-Dagme and Mole-Dagbani- were captured in the three regions. The dependent variables are: 1) perceived embarrassment of having a child with non-communicable disease, 2) discrimination from close associates and 3) difficulty of taking a child with non-communicable to social gatherings. The independent variable is residential status (rural and urban) and the control variables are socio-demographic characteristics of the respondents.

Results: The findings indicate that the association between the background characteristics with perception of discrimination against families with children who have NCDs are significant according to the results of the Chi-Square test place of residence (=10.678; p=0.005); level of education (=19.389; p=0.036), and ethnic background (=35.267; p=0.000). The results of the multinomial regression model show that those in rural areas have higher likelihood (92.0%) of perceiving that the family of a child with NCD will experience difficulty in going to social functions with the child compared with those in urban areas. Again, the rural dwellers are almost twice as likely (1.82%) to perceive that the family of a child with NCDs will feel embarrassed.

Conclusion: Perceived attitude of society towards children with NCDs is generally poor in the study population. Perceived discrimination against families of such children suggests that the children may not be availed for treatment even as it is indicated that the parents/care givers will have difficulty in taking them out to public places. Rural residents have higher likelihood of such attitudes Health policies need to address such attitudes in Ghanaian society and must target rural residents while not neglecting urban dwellers.

Background

There has been increasing prevalence of Non-Communicable Diseases (NCDs), including diabetes, hypertension, cardiovascular diseases and metabolic syndromes associated with overweight and obesity in the adult population of many countries worldwide. According to the World Health Organization (WHO) 2015 fact sheet, NCDs kills 38 million people every year and 28 million (73.7 percent) occur in low and middle income countries and the deaths are occurring at younger ages [1-2]. The findings of a number of studies in Ghana and other countries indicate that NCDs are increasingly being experienced by children also [3- 4].

One of the areas of research concern on NCDs in Ghana has been the traditional explanation of the diseases or their causes and the attitudes that are associated with them. Even though biomedical explanations and understanding of NCDs have been widespread and modern health services are sought for treatment in contemporary Ghanaian society, traditional beliefs about the causes of NCDs and associated attitudes persist. Both traditional and scientific medical systems do exist and continue to shape people's attitude towards persons suffering from NCDs, including children. Both patients and health care provider's exhibit poor attitude towards children with NCDs as indicated in findings of some studies [5-8]. Generally, illnesses are not considered to be caused by infections and infestations. Traditional health systems exist and are depended on by many Ghanaians. Beliefs and associated practices related to NCDs are held in contemporary Ghanaian societies [9- 10].

Consequently NCDs and other diseases are attributed to supernatural powers, spirits and witches. Increasing resort to faith healing in Ghana in addition to the use of conventional medicine

in the country is an indication of spiritual explanation of diseases [11].

Poor traditional perceptions, beliefs and practices result in practices and behaviors' in society and among parents and/or care givers that may prevent parents from exposing children with NCDs in public or availing them for treatment at modern health facilities, for example. Such perceived attitudes may differ between rural and urban residents as the underlying factors of poor attitude towards children that are culturally determined are usually stronger in rural than urban areas. Nonetheless, culturally determined views and attitudes to all kinds of health issues persist in contemporary Ghanaian society. So, individual, family and societal views about diseases, particularly NCDs, and decisions regarding their treatment are largely shaped by them.

Research evidence is required for adoption of policies that can address poor attitude to persons suffering from diseases of all kinds due to inadequate understanding about them. This paper therefore examines the perceived attitudes of parents and care givers (relatives and non-relatives) that Ghanaians have about NCDs among children. It is based on a research study that that was conducted such attitude sand health-seeking behaviors' in three regions of Ghana in both rural and urban areas as well as health facilities.

Methods

The Study Population Data Collection

Three out of the ten regions of Ghana were purposively selected for the study- Greater-Accra, Ashanti and Volta. Attitudes to diseases are largely determined by culturally determined beliefs and practices. Therefore, all the major ethnic groups of Ghana- Akan, Ewe, Ga-Dagme and Mole-Dagbani-were targeted for the study. They reside in these three regions. Both rural and urban residents were interviewed in the three regions so that the social and cultural views and attitudes to NCDs among children could be captured, using both quantitative and qualitative research techniques.

Data Collection

The study used quantitative and qualitative research approaches to collect data from communities and health facilities in the three regions. The questionnaire for the quantitative survey consisted of five modules, including socio-demographic background of the participants, knowledge of NCDs diseases, attitude to NCDs among children, health-seeking behavior of parents and/or care givers of the children and issues on policy on tertiary health delivery regarding children in Ghana.

A total of 1,540 persons in the three regions were interviewed in communities. The interviews were conducted in rural and urban sites, including Accra the national capital and regional capital of Greater-Accra Region and in Kumasi and Ho which are the regional capital towns of Ashanti and Volta regions respectively. The interviews in the health facilities were conducted in five hospitals. Korle Bu Teaching Hospital and the Princess Marie Louie Children's Hospital which are located in Accra were selected from the Greater Accra Region. Komfo Anokye Teaching Hospital (KATH) in Kumasi was selected from the Ashanti Region. In the Volta Region, the interviews were conducted in four hospitals- Ho Regional Hospital, Ho Municipal Hospital, Battor Catholic Hospital, and Mater Ecclesia to attain the minimum number required. This paper is based on responses by 700 respondents' in the quantitative component from the rural and urban communities of the three regions.

Table 1: Background Characteristics of Respondents.

Background characteristics	Number	Percentage
Place of residence		
Urban	363	51.9
Rural	337	48.1
Age group		
15-24	120	17.1
25-34	199	28.4
35-44	168	24
45-54	111	15.9
55-64	61	8.7
65 and above	41	5.9
Sex		
Male	230	32.9
Female	470	67.1
Level of education		
No education	100	14.3
Primary	115	16.4
Middle/JHS[1]	297	42.4
Secondary/SHS[2]	140	20.0
Post secondary	25	3.6
University	23	3.3
Occupation		
Professionals	39	5.6
Agricultural	80	11.4
Unskilled workers	28	4
Artisans	106	15.1
Sales related	258	36.9
Other	189	27.0.0
Ethnic group		
Akan	386	55.1
Ga-Dagme	112	16
Ewe	123	17.6
Mole-Dagbani	35	5.0
Other Ghanaian	33	4.7
Other African	11	1.6

Source: Field Work, January- June 2013

[1]JHS- Junior High School; [2]SHS- Senior High School

Data Analysis

The independent variable is residential status of participants and the dependent variable is perceived attitude towards children with NCDs. Three questions were used to show the perception of attitudes towards children with NCDsin terms of what will happen

Table 2: Background characteristics and the condition of child being an embarrassment.

Background characteristics	Discrimination against family				
	Yes	No	Undecided	Chi-square	P-value
Place of residence					
Urban	67.2	24.8	8.0	10.678	0.005
Rural	55.5	35.3	9.2		
Age group					
15-24	55.8	33.3	10.8	13.783	0.183
25-34	66.3	26.1	7.6		
35-44	63.7	28.6	7.7		
45-54	64.9	25.2	9.9		
55-64	59	34.4	6.6		
65 and above	41.5	48.8	9.7		
Sex					
Male	61.7	26.5	11.7	5.288	0.071
Female	61.5	31.5	7.0		
Level of education					
No education	68.0	27.0	5.0	19.389	0.036
Primary	53	35.7	11.3		
Middle/JHS	64	28.3	7.7		
Secondary/SHS	61.4	32.0	16.0		
Post secondary	52.0	32.0	16.0		
University	56.5	17.4	26.1		
Occupation					
Professionals	51.3	33.3	15.4	11.084	0.351
Agricultural	57.5	31.3	11.2		
Unskilled workers	82.1	17.9	0.0		
Artisans	65.1	25.5	9.4		
Sales related	61.2	31.0	7.8		
Other	60.9	31.2	7.9		
Ethnic group					
Akan	58.6	33.4	8.0	35.267	0.000
Ga-Dagme	78.6	18.8	2.7		
Ewe	49.6	34.2	16.2		
Mole-Dagbani	71.4	22.9	5.7		
Other Ghanaian	63.6	27.3	9.1		
Other African	90.9	0.0	9.1		

Source: Field work January- June 2013.

if their child is living with chronic conditions. The three statements are: 1) My family would be discriminated against by close associates when my child has NCDs; 2) The condition of my child would be an embarrassment to the family, and; 3) We will find it difficult to go out in the company of such a child to social gatherings. The responses' were coded "1" if they respond "yes" and they were coded as"0" if "No" and "2" if they are" undecided". Those who responded "No" perceive good attitude towards children with NCDs and were used as the reference category at the multivariate level of the analysis.

A frequency table was used to present the background characteristics of the respondents. At the bivariate level, Chi-Square tests were used to show the association between residential status and the perceived attitudes towards children with NCDs. Furthermore, multinomial logistic regression was used to show the independent effect of residential status on the three perception statements. The final stage of the analysis is done by controlling for their background characteristics.

Results and Discussion

Background Characteristics of the Respondents

The socio-demographic characteristics of the study population are presented in Table 1. A little over half (51.9%) were urban residents while 48% are rural dwellers. This distribution by residential status is similar to that of the total national population (50.9% urban and 49.1% rural) recorded at the 2010 Ghana Population and Housing Census (Ghana Statistical Service 2013). Out of the total of 700 respondents who responded to the questions on perceived attitude to NCDs among children, approximately 7 out of every 10 were aged below 45 years(45.5% were under 35 years and another 24% were aged 35-44 years). The rest 30.5% were 45 years and above. Majority of them (67.1%) are females. Traditionally, mothers and other females are primary care givers to children so the majority of the parents/care givers who were included as respondents in the study at the health facilities were females. A similar study conducted at the Korle Bu Teaching Hospital earlier also found out that almost all the care givers to the children admitted to the hospital were their mothers and other females, including grand-mothers.

The highest percentage (42.4%) of the respondents has Middle/ Junior Secondary School (JSS)/Junior High school (JHS). Those with primary or no education constitute close to a third (30.7%). Such large proportions of the respondents with low educational status may result in high percentages adhering to cultural attitudes to NCDs among children because low educational status is characterized by poor attitudes to diseases. The occupational characteristics show that the majority has sales related and agricultural occupations. This is due to the low educational status among them. The distribution by ethnic background shows that the Akan (which is the largest ethnic group in Ghana) constitute over half (55%) of the respondents. The second and third largest ethnic categories are Ewe (17.6%) and Ga-Dagme (16.0%).

Background characteristics and the condition of child with NCD being an embarrassment to the family.

The dependent variables (perceived embarrassment, discrimination and difficulty of taking children to social gathering) are cross-tabulated with the independent and control variables according to whether they agree or not to the different kinds of perceived attitude and presented on Table 2. The association between the background characteristics with perception of discrimination are significant according to the results of the Chi-Square test (Place of residence- =10.678; p=0.005); Level of education (χ^2 =19.389; p=0.036), and; ethnic background (χ^2 =35.267; p=0.000).

Table 3 also shows that the same three variables [place of residence (χ^2 = 10.228; P=0.006), level of education (χ^2 =19.829; P=0.031), and ethnic background (χ^2 = 39.424; p=0.000)] are significantly

Table 3: Background characteristics and the belief that family will be discriminated against.

Background characteristics	Discrimination against family				
	Yes	No	Undecided	Chi-square	P-value
Place of residence					
Urban	72.5	19.6	7.9	10.228	0.006
Rural	62.9	30	7.1		
Age group					
15-24	59.2	31.7	9.1	24.713	0.006
25-34	71.4	23.6	5.0		
35-44	71.4	21.4	7.1		
45-54	73	15.3	11.7		
55-64	67.2	24.6	8.2		
65 and above	48.8	46.3	4.9		
Sex					
Male	64.8	26.1	9.1	1.897	0.387
Female	69.4	23.8	6.8		
Level of education					
No education	74.0	15.0	11.0	19.829	0.031
Primary	56.5	33	10.5		
Middle/JHS	72.7	22.2	5.1		
Secondary/SHS	64.3	28.6	7.1		
Post secondary	60.0	32.0	8.0		
University	65.2	21.7	13.0		
Occupation					
Professionals	64.1	25.6	10.3	8.278	0.602
Agricultural	75	18.8	6.2		
Unskilled workers	82.1	17.9	0.0		
Artisans	67.9	22.6	9.4		
Sales related	67.1	24.8	8.1		
Other	64.6	28.6	6.8		
Ethnic group					
Akan	67.1	26.9	6.0	39.424	0.000
Ga-Dagme	82.1	14.3	3.6		
Ewe	51.2	32.5	16.3		
Mole-Dagbani	71.4	17.1	11.5		
Other Ghanaian	78.8	15.2	6.0		
Other African	90.9	9.1	0.0		

Source: Field Work, January- June 2013.

Table 4: Background characteristics and family finding it difficult to go to Social gathering.

Background characteristics	Discrimination against family				
	Yes	No	Undecided	Chi-square	P-value
Place of residence					
Urban	59.0	32.0	9.0	16.81	0.000
Rural	43.6	45.4	11.0		
Age group					
15-24	47.5	45.8	6.7	11.7	0.301
25-34	54.8	35.7	9.5		
35-44	48.8	39.9	11.3		
45-54	56.8	36.1	8.1		
55-64	55.7	36.1	8.2		
65 and above	39	41.5	19.5		
Sex					
Male	52.2	38.3	9.5	12.711	0.240
Female	51.3	38.5	10.2		
Level of education					
No education	58.0	34.0	8.0	19.829	0.031
Primary	43.5	45.2	11.3		
Middle/JHS	50.8	40.1	9.1		
Secondary/SHS	56.4	33.6	10.0		
Post secondary	36.0	48.0	16.0		
University	60.9	21.7	17.4		
Occupation					
Professionals	46.2	33.3	20.5	10.017	0.439
Agricultural	51.3	38.8	10		
Unskilled workers	60.7	28.6	10.7		
Artisans	54.7	37.7	7.6		
Sales related	48.8	39.5	11.7		
Other	53.4	39.7	6.9		
Ethnic group					
Akan	51	41.2	7.8	45.003	0.000
Ga-Dagme	55.4	41.1	3.5		
Ewe	39.0	37.4	23.6		
Mole-Dagbani	68.6	22.9	8.5		
Other Ghanaian	63.6	27.3	9.1		
Other African	81.8	9.1	9.1		

Source: Field Work, January- June 2013.

associated with the perception of discrimination against the child with NCDs. Age is also significantly associated with the perception of discrimination against a child with NCDs

(χ^2 = 24.713; P=0.006).

With respect to the perceived difficulty of taking a child with NCDs to a social gatherings, the socio-demographic variables that are significantly associated with the perception of the attitude are also place of residence (χ^2 =16.81; P= 0.000) and ethnic background (χ^2 =45.003' P= 0.000) Table 4.

Regression Analysis

The association between the residential status of the respondents and their perception that a family will face embarrassment is

Table 5: Place of residence and embarrassment.

	Family will experience embarrassment		Undecided	
Variables	**Odds ratio**	**S.E**	**Odds ratio**	**S.E**
Place of residence				
Urban (RC)				
Rural	1.725**	0.294	1.395	0.385
Note: The reference category is "Good attitude"				
N= 700; Nagelkerke R-square= 0.0088; Chi-square = 10.70***				
*p<0.05; **p<0.01; ***p<0.001				

Table 6: Place of residence, background characteristics and embarrassment.

	Family will feel embarrassed		Undecided	
Variables	**Odds ratio**	**S.E**	**Odds ratio**	**S.E**
Place of residence				
Urban(RC)				
Rural	1.815**	0.346	1.574	0.497
Age group				
15-24(RC)				
25-34	0.644	0.181	0.47	0.212
35-44	0.809	0.24	0.537	0.259
45-54	0.626	0.215	0.512	0.272
55-64	0.961	0.361	0.359	0.240
65 and above	1.726	0.757	0.829	0.588
Sex				
Male(RC)				
Female	1.151	0.249	0.573	0.192
Level of education				
No education(RC)				
Primary	1.726	0.757	2.483	1.438
Middle/JHS	1.229	0.364	1.415	0.784
Secondary/SHS	1.465	0.518	1.024	0.671
Post secondary	1.364	0.762	2.727	2.232
University	0.795	0.557	4.422	3.791
Occupation				
Professionals(RC)				
Agricultural	0.556	0.28	0.938	0.710
Unskilled workers	0.309	0.207	1.46	0.000
Artisans	0.498	0.239	0.662	0.475
Sales related	0.710	0.312	0.261	0.164
Other	0.630	0.274	2.902	0.993
Ethnic group				
Akan(RC)				
Ga-dagme	0.415**	0.115	0.261*	0.164
Ewe	1.412	0.342	2.902	0.993
Mole-dagbani	0.768	0.342	0.925	0.743
Other Ghanaian	0.899	0.387	1.244	0.840
Other African	1.99	0.000	0.934	1.027
Note: The reference category is "Good attitude"				
N= 700; Nagelkerke R-square= 0.076; Chi-square = 93.31***				
*p<0.05; **p<0.01; ***p<0.001				

Table 7: Place of residence and discrimination.

	Family will experience discrimination		Undecided	
Variables	**Odds ratio**	**S.E**	**Odds ratio**	**S.E**
Place of residence				
Urban(RC)				
Rural	1.765**	0.318	1.027	0.299
N= 700; Nagelkerke R-square= 0.0091; Chi-square = 10.25***				
*p<0.05; **p<0.01; ***p<0.001				

significant. Moreover, those in rural areas are more likely (73%) to have perceived this attitude than those in rural areas Table 5. When the background characteristics are controlled for, the relationship between residential status and the attitudes is still significant. Again, the rural dwellers are almost twice as likely (1.82%) to perceive that the family of a child with NCDs will feel embarrassed Table 6.With respect to age, all the age categories except those aged 65+ are less likely to perceive that the family of a child with a NCD will feel embarrassed compared to those aged 15-19 years Table 6. Sex and level of education are not significantly related to the perception that family will feel embarrassed when a child has NCD. With respect to occupation, the unskilled workers are significantly and less likely (69.1%) to perceive that the family of a child with NCD will feel embarrassed compared with those who are professionals. It should be expected that professional will have better perception compared to the other categories since level of education is expected to be higher among them compared with the other occupational categories. But professionals include service providers such as hair dressers and fashion designers who may not have any higher educational status compared with the others classified as sales related and unskilled workers.

Table 7 shows the relationship between the residential status of respondents and the perception that the family of a child with NCD will experience discrimination. The results show that there is a significant relationship between residential status and this perception. Those who are living in rural areas are 76.5% more likely to perceive that the family of a child with NCD will experience discrimination compared with those living in urban areas (Table 7). When the other background characteristics were controlled for, the results show that those in rural areas are twice as likely to have this perceived attitude as can be seen from Table 8 (OR=2.027). With respect to age, the results show that the likelihood of having the perception that a family with a child with NCDs will be discriminated against increase with increasing age. The only exception is age group45- 54 years whose likelihood of having the perception is lower than those of the younger age groups. Specifically, those who are 45-54 years are significantly less likely (57.5%) to have this perception compared with those who are 25-29 years Table 8. Also, those with primary education are 2.06 times more likely to perceive that the family of a child with NCD will experience discrimination compared with those with no education. However, all the other categories of level of education do not show significant relationships with this perceived attitude. Further, sex, occupation and ethnic background do not show significant relationship with this perception.

It can be observed from Table 9 that there is a significant relationship between the residential status of the respondents and

Table 8: Place of residence, background characteristics and discrimination.

	Family will experience discrimination		Undecided	
Variables	**Odds ratio**	**S.E**	**Odds ratio**	**S.E**
Place of residence				
Urban(RC)				
Rural	2.027*	0.412	1.277	0.425
Age group				
15-24(RC)				
25-34	0.626	0.180	0.369*	0.165
35-44	0.657	0.204	0.592	0.297
45-54	0.425*	0.161	0.699	0.368
55-64	0.804	0.324	0.688	0.44
65 and above	1.992	0.896	0.403	0.357
Sex				
Male(RC)				
Female	0.755	0.170	0.448*	0.165
Level of education				
No education(RC)				
Primary	3.062*	1.163	1.085	0.533
Middle/JHS	1.561	0.561	0.367*	0.177
Secondary/SHS	2.122	0.869	0.461	0.264
Post secondary	1.970	1.16	0.408	0.376
University	1.671	1.148	0.617	0.583
Occupation				
Professionals(RC)				
Agricultural	0.466	0.256	0.408	0.376
Unskilled workers	0.471	0.324	3.500	0.000
Artisans	0.809	0.409	0.898	0.698
Sales related	1.132	0.527	0.975	0.727
Other	1.009	0.462	0.692	0.512
Ethnic group				
Akan(RC)				
Ga-dagme	0.418	0.129	0.445	0.253
Ewe	1.856	0.464	3.928	1.394***
Mole-dagbani	0.917	0.459	1.772	1.123
Other Ghanaian	0.532	0.279	0.613	0.484
Other African	0.320	0.345	7.700	0.000
Note: The reference category is "Good attitude"				
N= 700; Nagelkerke R-square= 0.0974; Chi-square = 109.59***				

the perception that the family of a child with NCD will experience difficulty in going to social function with the child. Those in rural areas have higher likelihood (92.0%) of perceiving that the family of a child with NCD will experience difficulty in going to social functions compared with those in urban areas. In Table 10, the background characteristics of the respondents were controlled for and the results still show that those in rural areas are more likely (76.2%) to have

Table 9: Place of residence and Social gathering.

	Family cannot go to social gathering		Undecided	
Variables	**Odds ratio**	**S.E**	**Odds ratio**	**S.E**
Place of residence				
Urban(RC)				
Rural	1.920***	0.313	1.632	0.428
N= 700; Pseudo R-square= 0.0128; Chi-square = 16.88***				
*p<0.05; **p<0.01; ***p<0.001				

Table 10: Place of residence, background characteristics and social gathering.

	Social gathering		Undecided	
Variables	**Odds ratio**	**S.E**	**Odds ratio**	**S.E**
Place of residence				
Urban(RC)				
Rural	1.762**	0.317	2.305**	0.698
Age group				
15-24(RC)				
25-34	0.580	0.153	0.972	0.475
35-44	0.739	0.208	1.572	0.790
45-54	0.490	0.158	0.919	0.518
55-64	0.546	0.200	0.897	0.604
65 and above	0.766	0.339	3.49	2.319
Sex				
Male(RC)				
Female	0.905	0.183	1.200	0.421
Level of education				
No education(RC)				
Primary	1.598	0.492	1.970	1.030
Middle/JHS	1.168	0.323	1.559	0.750
Secondary/SHS	0.791	0.266	1.600	0.905
Post secondary	1.943	1.039	2.857	2.332
University	0.49	0.313	2.529	2.348
Occupation				
Professionals(RC)				
Agricultural	0.583	0.291	0.371	0.270
Unskilled workers	0.455	0.284	0.371	0.270
Artisans	0.585	0.278	0.387	0.352
Sales related	0.871	0.386	0.321	0.221
Other	0.712	0.311	0.673	0.204
Ethnic group				
Akan(RC)				
Ga-dagme	0.880	0.205	0.443	0.250
Ewe	1.363	0.333	4.887***	1.609
Mole-dagbani	0.490	0.218	1.166	0.801
Other Ghanaian	0.592	0.253	1.338	0.909
Other African	1.189	0.726	1.108	1.221
N= 700; Nagelkerke R-square= 0.076; Chi-square = 93.31***				
*p<0.05; **p<0.01; ***p<0.001				

this perception compared with those in urban areas. All the other background characteristics (age, sex, level of education, occupation, and ethnic background) do not show significant relationship with this perception even though variations in the likelihood of having the perception exist within each of the characteristics.

Conclusion

The association between the residential status of the respondents and their perception that a family will face embarrassment having a child with NCD, will be discriminated against or taking the child to social gatherings is statistically significant and even when the background characteristics are controlled for. Rural residents are more likely to have these perceptions than those in urban areas. The perceived attitudes are culturally determined and the cultural beliefs and behaviors' are stronger in rural areas where adherence to traditional beliefs is strong.

Societal attitude to children with NCDs is generally poor in the study population. The perception of discrimination against families of such children and their difficulty in taking them out to social gatherings suggest that the children may not be availed for medical treatment at health facilities. This situation is made worse by the difficulty that the family will have in taking the child out and exposing it in public. The higher likelihood of the poor attitudes in rural areas suggests that they are rooted in culturally determined views about causation of NCDs (and other diseases) by supernatural powers, spirits and other non-medical explanations. Urban dwellers do not adhere to such views and practices as much as rural dwellers. Health policies need address such attitudes in Ghana and must target rural residents while not neglecting urban dwellers.

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