

ORIGINAL ARTICLES

Religious affiliation and health-seeking behavior related to non-communicable diseases among children in Ghana

John Kwasi Anarfi*¹, Delali M Badasu¹, Alfred Yawson², Deborah Atobra³, Aaron A Abuosi⁴, Francis A Adzei⁴

¹Regional Institute for Population Studies, University of Ghana, Legon, Ghana

²Department of Community Health, University of Ghana Medical School, College of Health Sciences, Legon, Ghana

³Institute of African Studies, University of Ghana, Legon, Ghana

⁴Department of Public Administration and Health Services Management, University of Ghana Business School, Ghana

Received: February 4, 2016

Accepted: May 5, 2016

Online Published: June 14, 2016

DOI: 10.5430/ijh.v2n2p57

URL: <http://dx.doi.org/10.5430/ijh.v2n2p57>

ABSTRACT

Objective: This study examined the relationship between adults' religious affiliation and their attitudes as they relate to non-communicable diseases (NCDs) among children. It also looked at how attitudes in turn influence how adults perceive NCDs among children and how those affected by the disease seek care for diseased children.

Design: The study was conducted in three regions purposively selected to include all the major ethnic groups in the country and the religions they are affiliated to. The regions are Greater Accra, Ashanti and Volta. Data from 119 respondents were analysed for this study. Descriptive statistics were used to show the characteristics of the respondents. Chi-Square tests were used to show the association between background characteristics of the respondents and their health seeking behaviour. The significant level was set at 0.05.

Results: Christians constituted the largest proportion of respondents and the highest proportion of them (41.2%) were Charismatic/Pentecostals. The majority (99.2%) used biomedical treatments for their children's condition, followed by herbal medication (50.5%), prayer camps (47.1%), herbal treatment (43.0%) and spiritual intervention (22.9%). The findings showed that seeking treatment from prayer camps, seeking herbal treatment and spiritual interventions did not vary by religious affiliations of the respondents.

Conclusions: This study showed that majority of the respondents sought biomedical treatment for their children with NCDs and more than half use herbal preparations. The findings from this study confirmed other studies that in emergency situations, many Ghanaians seek help from any source including those outside their normal range of religious activities. This probably explains why health seeking behaviour did not vary by religious affiliations. There is need for extended studies to explore this further.

Key Words: Religious affiliations, Health-seeking behaviour, Children, Ghana

1. INTRODUCTION

Chronic non-communicable diseases (NCDs) are a global health problem and a threat to human health and develop-

ment.^[1] Most of the deaths due to chronic diseases (80%) globally occur in low- and middle-income countries.^[2] Sub-Saharan Africa is experiencing an increasing prevalence of

*Correspondence: John Kwasi Anarfi, PhD; Email: jknanarfi@ug.edu.gh; Address: Regional Institute for Population Studies, University of Ghana, Legon, Ghana.

chronic NCDs such as diabetes and hypertension.^[2] For example, 12.1 million people were estimated to be living with diabetes in Africa in 2010, and this is projected to increase to 23.9 million by 2030.^[3] The prevalence of hypertension in Africa has been found to be rapidly increasing, ranging from 3% in rural areas to 30% in some urban settings.^[4]

Studies have shown that NCDs, particularly hypertension, may begin in adolescence or during childhood before being evidently noticed in adulthood.^[5,6] Conditions such as hypertension in adolescents often go undiscovered because that age group are generally healthy and visit a physician or medical professional only when they are very ill.^[7] Evidence shows that in children, blood pressure tracking patterns confirm that persistent blood pressure elevation may be related to hypertension in adulthood.^[8,9]

In Ghana, the major causes of disability and death have shifted from predominantly communicable diseases to a combination of communicable and chronic NCDs over the last few decades. In particular, since the early 1990s, Ghana has seen a growing chronic disease burden with the major NCDs being hypertension, stroke, diabetes and cancers.^[10] There is scarce data on prevalence of NCDs among children in Ghana. However, a study conducted by Agyemang et al. (2005) among children aged 8-16 in the Ashanti Region showed that blood pressure increased with increasing age. Results from the study further showed that rural boys had a lower systolic and diastolic blood pressure than semi-urban boys and lower systolic blood pressure than urban boys. In that study, girls had a higher blood pressure than boys.^[11] The results in that study were similar to another study in Nigeria among adolescents where male and female urban-dwelling adolescents had significantly higher systolic blood pressure compared to their counterparts living in the non-urban areas, even after adjusting for age and height.^[12] In another study conducted in Sousse, Tunisia, the prevalence of arterial hypertension was 9.6%, with no significant difference between boys (9.2%) and girls (9.9%).^[13] A study by Ohene et al. (2009), examining autopsy cases at the Korle Bu Teaching Hospital in Ghana revealed that 41% of adolescents aged 10-19 years died of NCDs.^[14] These initial facts underscore the urgent need for public health measures to prevent increasing prevalence of NCDs from becoming a public health burden in Ghana among children or adolescents.

As dependents, somebody has to take the decision to seek medical attention on behalf of children. It is therefore important to take into consideration the attitudes adults who take care of children with NCDs have about the disease hence this study. Myers defines attitude as “a favourable or unfavourable evaluative reaction toward something or somebody exhibited in one’s beliefs, feelings, or intended

behavior”.^[15] He further adds that attitudes predict behavior and vice versa depending on the prevailing circumstances. Attitude therefore permeates all aspects of life. Our likes and dislikes are driven by the attitudes we form about various things and issues ranging from the food we eat to the political ideologies we identify with.

Having certain beliefs informs the kind of attitude a person will have regarding certain issues and this will in turn affect how the person behaves and even what the person thinks is the right behaviour for every human being. There is a close link between beliefs and religion. One definition of religion is “a personal set or institutionalized system of religious attitudes, beliefs and practices”.^[16] Thus, religion is not just what people do in church on Sundays or in the mosque on Fridays but it is a way of life for people in that it determines what they would consider right or wrong. Obviously, the influence of religion is so strong that, like attitude, it permeates almost all aspects of society. It would therefore be interesting to see the relationship between adults’ religious affiliation and their attitudes as they relate to NCDs among children and how these attitudes in turn influence how they perceive NCDs among children and how those affected by the disease seek care for diseased children.

In many traditional societies in Ghana, there is the belief that children were reincarnated people who had lived and died in previous generations. They were thus accorded some respect and were given the necessary protection and proper socialization in the expectation that they would grow to become responsible members of society. There is also their fundamental role as future insurance for their families.^[17] They were thus expected to be healthy enough to live and grow into adulthood and play the role ascribed to them by society. Otherwise, all effort invested in such children would have gone to waste and some believe the practice of infanticide in some African societies in the past was purposely to ensure that only healthy children survived.^[18,19] Hill and Ball^[18] list among the most common reasons for infanticide low likelihood for survival. Daly and Wilson^[19] also observed poor infant quality, manifesting as deformity or illness, as the most commonly reported cause of infanticide. Most NCDs among children fall into this category. It must be emphasized that although western influence has penetrated deep into the African cultural fabric,^[17] the continent is still very much traditional and at best is in a period of transition. Cultural and religious beliefs and practices therefore, still loom heavily on the way children are brought up in many African and for that matter, Ghanaian societies, including care-giving when they are sick. A number of studies conducted in Ghana indicate that attitudes to diseases, NCDs in particular, and beliefs about them are still largely determined by cultural practices

and religious doctrines. Health seeking behaviour and care for children is not done in the absence of beliefs about the causes of diseases. Such beliefs are associated with religious practices as well as culturally determined attitude to disease. NCDs are explained as results of the activities of supernatural powers and as such should be treated by reference to prayer or supernatural sources of treatment or cure.^[20,21]

2. METHODS

2.1 Study sites

This paper is an aspect of the link between religious beliefs and health seeking behaviours that came from a bigger study which was conducted in three regions including Greater Accra, Ashanti and the Volta. The regions were purposively selected to ensure that many of the major ethnic groups, as well as the religions they are affiliated to, are captured in the study. The inclusion of Greater Accra and Ashanti regions in particular enabled members of some of the ethnic groups in the north of the country to be captured in the study. This is because Greater Accra, home of the national capital, accommodates many ethnic groups in the country. Similarly, Ashanti Region with the second largest city in Ghana, Kumasi, is as equally cosmopolitan as the national capital, Accra, due to its central location in the country. The two cities also host Ghana's leading tertiary hospitals, Korle Bu Teaching Hospital and Komfo Anokye Teaching Hospital, to which most cases of NCDs are referred. These notwithstanding, the study cannot be said to be nationally representative and care must be taken with the interpretation of the results.

2.2 Data sources

The study used both quantitative and qualitative research approaches to gather data and other information from adults aged 18 years and over. Quantitative data were collected from two sources, the general population and care givers aged 18 years and over who were caring for children with NCDs in some selected health facilities. The caregivers were encountered at the health facilities where they were taking care of their sick children. This study is based on the caregivers' data which covered 225 respondents, 91 in Greater Accra, 100 in Ashanti and 34 in Volta. In Accra and Kumasi the two teaching hospitals there were big enough to serve the purpose of the study in the Greater Accra and Ashanti regions respectively. In the Volta Region, however, the caregivers' survey was spread over four facilities, namely Battor Catholic Hospital, Ho Municipal Hospital, Ho Regional Hospital and Mater Ecclesia. These are smaller facilities and therefore, the need to cover all of them to ensure that enough cases were covered.

The analysis was based on 119 respondents as 26 were missing due to non-responses.

3. RESULTS

3.1 Background characteristics of parents

The results show that all the respondents belong to one of the religious affiliations because none falls under the 'no religion' category (see Table 1). More than eight out of ten of the respondents are Christians, with the highest proportion being Charismatic/Pentecostals (41.2%). Also, nearly 14% are Muslims and about 2% are Traditionalist/spiritualists. The mean age of the respondents is 36.3 ($SD = 9.9$) and a highest proportion of the parents (21.0%) are between 35-39 years. The least proportion of the respondents (3.4%) is found in the 15-19 years age group. More than seven out of ten of the respondents (72.3%) were females and a higher proportion (42.0%) has secondary and above education while less than 10% (6.7%) had no education. More than half (55.5%) are Akan and more than four-fifth (83.2%) are living in urban areas. Further, the largest proportion (38.7%) is in sales, about 16% are professionals and the rest are in skilled manual and unskilled manual work (26.1% and 19.3% respectively). More than 70% are married and an appreciable minority (41.2%) has the belief that chronic disease cannot be treated in a hospital.

3.2 Health seeking behaviour

Table 2 shows the health seeking behaviour of parents who have children living with chronic diseases. Prayer camps in the table are all Christian institutions. Some are privately owned while others operate under some of the established churches especially the Charismatic/Pentecostal ones. As their names go, they are camps where patients can go and stay for days to get their diseases cured. Some prayer camps combine prayers and the administration of medicine either orthodox or herbal, in the treatment of their patients. Spiritual intervention on the other hand, can come from any source, including Christian, Islamic, traditional and others. The interventions do not involve any medication and are non-residential. Similarly, herbal treatments are linked to herbalists or fetish priests. These combine herbal preparations with other spiritual activities for the treatment of their patients which may involve residence at a shrine for some days. Herbal medications are just medicines made from herbs. They can be bought from anywhere, including pharmacies, with or without prescription.

Table 2 shows that almost all the parents (99.2%) seek biomedical treatment for their children with NCDs. More than four out of ten (47.1%) go to prayer camps for their children's condition and more than one-fifth (22.9%) seek spiritual intervention. Another 43% use herbal treatment and a little over half (50.5%) resort to herbal medication for their children's chronic conditions. The difference between herbal

treatment and herbal medication is that, in the case of the former some consultation with a practitioner (such as a herbalist or fetish priest) is involved while the latter involves just the use of a herbal preparation that could be bought anywhere.

Table 1. Background characteristics of parents

Background characteristics	Percentage	Number (N = 119)
Religion		
Catholic	8.4	10
Protestant/Anglican/Presbyterian	35.2	42
Charismatic/Pentecostal	41.2	49
Moslem	13.5	16
Traditional/Spiritualist	1.7	2
Age		
15-19	3.4	4
20-24	9.2	11
25-29	12.6	15
30-34	16.8	20
35-39	21.0	25
40-44	18.5	22
45-49	10.1	12
50+	8.4	10
Sex		
Male	27.7	33
Female	72.3	86
Level of education		
No education	6.7	8
Primary	13.5	16
Middle/JHS	37.8	45
Secondary /Higher	42.0	50
Place of residence		
Urban	83.2	99
Peri-urban	7.6	9
Rural	9.2	11
Ethnicity		
Akan	55.5	66
Ga-Adamgbe	12.6	15
Ewe	14.3	17
Mole-Dagbani	10.1	12
Other Ghanaian	7.6	9
Occupation		
Professional	16.0	19
Sales related	38.7	46
Agric/homemaker/artisan	26.1	31
Unskilled/other	19.3	23
Marital status		
Never married	19.3	23
Married	73.1	87
Formerly	7.6	9
Belief (NCDs cannot be treated in a hospital)		
No	41.2	49
Yes	58.8	70

Table 2. Health seeking behaviour of parents

Health seeking behaviour	Percentage	Number
Biomedical	99.2	118
Prayer camps	47.1	56
Spiritual intervention	22.9	27
Herbal treatment	42.9	51
Herbal medication	50.5	60

3.3 Religion, background characteristics and seeking treatment from prayer camps

Table 3 shows the association between religion, other background characteristics of parents whose children are living with chronic conditions and receiving treatment from prayer camps. The results show that age and sex of the parents have significant associations with seeking treatment from prayer camps while religion, level of education, place of residence, ethnicity, occupation, and marital status do not have significant association with seeking treatment from prayer camps. However, distribution among the various religious groupings shows an interesting pattern. More than half of caregivers who are Charismatic/Pentecostal Christians (53.1%) seek treatment from prayer camps for their children’s NCDs followed closely by those who are Protestants (Anglican and Presbyterians) with 47.65%. Just about one-third of those who are Catholics (30.0%) visit prayer camps for the treatment of their children’s NCD condition. This is as should be expected because in Ghana Charismatic/Pentecostal Christians are known to be more spiritually inclined than the Protestants who are also perceived to be more spiritually inclined than Catholics.

In fact in Ghana Charismatic/Pentecostal Churches are known generally as spiritual churches. Generally more Christians seek treatment for their children from prayer camps than Muslims. It is worth noting however, that a higher proportion of Muslims use prayer camps than Catholics (37.5% versus 30%). Similarly, far more Traditionalists (50%) seek treatment from prayer camps than Catholics and Protestants. In Ghana, prayer camps are invariably Christian healing centres. That then confirms Atiemo’s observation that in emergency situations, many Ghanaians would not mind going outside their normal range of religious activities if they perceive that there is the possibility of obtaining help there.^[22]

All the caregivers between 15-19 years seek treatment from prayer camps for their children’s condition and more than half of those between 30-34 years and 40-44 years also visit the prayer camps (65.0% and 54.6% respectively). Further, the results show that more than half of females (53.5%) seek treatment from prayer camps compared to just about one-third (30.3%) of their male counterparts who do same. This

indicates that a higher proportion of females seek treatment from prayer camps. Also, having the belief that the chronic conditions cannot be treated in the hospital is not significantly associated with receiving treatment from prayer camps.

3.4 Background characteristics and herbal treatment

It could be found from Table 4 that there is no significant association between the religious affiliations of parents and seeking herbal treatment for children's chronic conditions. Further, the other background characteristics like age, sex, level of education, place of residence, ethnicity, occupation and marital status are not significantly associated with seeking herbal treatment. From the table, half of the parents who are Catholics, Muslims, and Traditionalists/Spiritualists seek herbal treatment. By comparison, just about 43.0% of the parents who are Protestants and 39.0% of those who are Charismatic/Pentecostal do seek herbal treatment for their children's condition.

In Ghana there is confusion over herbal treatment. Most traditional healing is linked to fetish shrines whose main ingredient for treatment is herbal base. Even where the traditional healer is not visibly linked to a shrine, his activities are often shrouded in secrecy amidst some superstitious beliefs. Some Christians, especially the spiritually inclined, do not feel comfortable going to such healers for treatment. In recent times, however, attempts have been made to popularize herbal treatment and many of the preparations have gone scientific. That, in a way, is helping to break the barriers. However, having the belief that the children's chronic conditions cannot be treated in the hospital is significantly associated with seeking herbal treatment. For instance, more than half of parents (51.4%) who have the belief that chronic conditions cannot be treated in the hospital seek herbal treatment, while about one-third (30.6%) of those who believe that chronic conditions can be treated in the hospital seek herbal treatment.

3.5 Background characteristics and seeking spiritual intervention

Table 5 shows that there is no significant association between religion, other background characteristics of respondents and seeking spiritual intervention. The table shows that no Catholic sought spiritual intervention for their children's chronic condition but half of those who are Traditionalist/Spiritualist did so. Also, less than a third of those who are Protestants and Charismatic/Pentecostals (23.8% and 28.6% respectively) sought spiritual intervention for their children's conditions. A higher proportion of those who are 50 years and above (77.8%) sought spiritual intervention while none of those between 20-24 years sought spiritual intervention

for their children's conditions. Further, almost equal proportion of males and females sought spiritual intervention (21.9% and 23.3% respectively). In terms of the level of education, more than one-fifth of parents with Middle/JHS and secondary education sought spiritual intervention. Also, a higher proportion of parents in the peri-urban areas (33.3%) sought spiritual intervention and about one-fourth of those who are Akan, Ga-Adamgbe and Ewe (25.8%, 26.7% and 25.0% respectively) sought spiritual intervention for their children's condition. An equal number of parents in sales related jobs and those in unskilled jobs (26.1%) and a higher proportion of those who are formerly married (44.4%) sought spiritual intervention. There is not much variation in spiritual health seeking behaviour of parents who believe that NCDs can be treated in hospital and those who are against such belief.

4. DISCUSSION

The health seeking behavior of parents of children with NCDs brings out an interesting picture. The use of biomedical sources of treatment is almost universal (99.2%) and, in addition, a little over half of them (50.5%) use herbal preparations. Resort to spiritual media for the solution of the NCDs ranks lowest in parents' list of priority. That seems to suggest that Ghanaians are still operating within the framework of the germ theory of disease.^[23,24] Thus, they believe that the diseases that afflict their children were caused by some microorganisms. Ghanaians are just emerging out of the situation where we were almost totally besieged by infectious diseases.^[10] The idea that diseases are caused by "mmoawamoawa" (Small, small animals), as the Akans put it, is very much ingrained in the minds of people. Many people will, therefore, use things they know or believe can attack these organisms.

Beyond medication, visit to prayer camps and treatment by herbalists come next. Some of these come with a combination of spiritual interventions and some medication. That explains why they rate much higher than purely spiritual intervention, which often comes as the last and only resort. In that sense, we can also say that some Ghanaians are operating within the health belief model, which stipulates that a person will take an action related to health if he/she:

- (1) feels that a negative health condition can be avoided
- (2) has a positive expectation that by taking a recommended action, he/she will avoid a negative health condition, and
- (3) believes that he/she can successfully take a recommended health action.^[25]

Table 3. Background characteristics and use of prayer camps

Background characteristics	Prayer camp treatment		Chi-square	p-value
	Yes	No		
Religion				
Catholic	30.0	70.0	2.476	.649
Protestant/Anglican/Presbyterian	47.6	52.4		
Charismatic/Pentecostal	53.1	46.9		
Moslem	37.5	62.5		
Traditional/Spiritualist	50.0	50.0		
Age				
15-19	100.0	0.0	13.128	.069
20-24	27.3	72.7		
25-29	26.7	73.3		
30-34	65.0	35.0		
35-39	48.0	52.0		
40-44	54.6	45.4		
45-49	41.7	58.3		
50+	30.0	70.0		
Sex				
Male	30.3	69.7	5.146	.023
Female	53.5	46.5		
Level of education				
No education	50.0	50.0	3.82	.282
Primary	43.8	56.2		
Middle/JHS	57.8	42.2		
Secondary/Higher	38.0	62.0		
Place of residence				
Urban	48.5	51.5	0.611	.737
Peri-urban	44.4	55.6		
Rural	36.4	63.6		
Ethnicity				
Akan	45.5	54.5	1.736	.784
Ga-Adamgbe	46.7	53.3		
Ewe	58.8	41.2		
Mole-Dagbani	50.0	50.0		
Other Ghanaian	33.3	66.7		
Occupation				
Professional	31.6	68.4	2.859	.414
Sales related	54.4	45.6		
Agric/homemaker/artisan	45.2	54.8		
Unskilled/other	47.8	52.2		
Marital status				
Never married	43.5	56.5	0.1948	.907
Married	48.3	51.7		
Formerly	44.4	55.6		
Belief that NCDs cannot be treated in the hospital				
No	53.1	46.0	1.205	.272
Yes	42.9	57.1		

Note. P is significant at 90% and 95%

Table 4. Background characteristics and herbal treatment

Background characteristics	Herbal treatment		Chi-square	p-value
	Yes	No		
Religion				
Catholic	50.0	50.0	0.917	.922
Protestant/Anglican/Presbyterian	42.9	57.1		
Charismatic/Pentecostal	38.8	61.2		
Moslem	50.0	50.0		
Traditional/Spiritualist	50.0	50.0		
Age				
15-19	0.0	100.0	9.718	.205
20-24	18.2	81.8		
25-29	40.0	60.0		
30-34	35.0	65.0		
35-39	56.0	44.0		
40-44	50.0	50.0		
45-49	41.7	58.3		
50+	60.0	40.0		
Sex				
Male	42.4	57.6	0.004	.953
Female	43.0	57.0		
Level of education				
No education	50.0	50.0	3.025	.388
Primary	43.8	56.2		
Middle/JHS	51.1	48.9		
Secondary/Higher	34.0	66.0		
Place of residence				
Urban	44.4	55.6	1.697	.428
Peri-urban	22.2	77.8		
Rural	45.5	54.5		
Ethnicity				
Akan	47.0	53.0	2.526	.64
Ga-Adamgbe	33.3	66.7		
Ewe	29.4	70.6		
Mole-dagbani	50.0	50.0		
Other Ghanaian	44.4	55.6		
Occupation				
Professional	26.3	73.7	3.37	.338
Sales related	45.7	54.4		
Agric/homemaker/artisan	51.6	48.4		
Unskilled/other	39.1	60.9		
Marital status				
Never married	39.1	60.9	2.291	.318
Married	41.4	58.6		
Formerly	66.7	33.3		
Belief (NCDs cannot be treated in a hospital)				
No	30.6	69.4	5.1	.024
Yes	51.4	48.6		

Note. *p* is significant at 90% and 95%

Table 5. Background characteristics and spiritual intervention

Background characteristics	Yes	No	Chi-square	p-value
Religion				
Catholic	0.0	100.0	5.401	.249
Protestant/Anglican/Presbyterian	23.8	76.2		
Charismatic/Pentecostal	28.6	71.4		
Moslem	12.5	87.5		
Traditional/Spiritualist	50.0	50.0		
Age				
15-19	25.0	75.0	4.701	.696
20-24	0.0	100.0		
25-29	33.3	66.7		
30-34	20.0	80.0		
35-39	28.0	72.0		
40-44	22.7	77.3		
45-49	25.0	75.0		
50+	77.8	22.2		
Sex				
Male	21.9	78.1	0.0252	.874
Female	23.3	76.7		
Level of education				
No education	12.5	87.5	1.734	.629
Primary	18.8	81.2		
Middle/JHS	28.9	71.1		
Secondary /Higher	20.4	79.6		
Place of residence				
Urban	22.5	77.5	0.705	.703
Peri-urban	33.3	66.7		
Rural	18.2	81.8		
Ethnicity				
Akan	25.8	74.2	2.618	.624
Ga-Adangbe	26.7	73.3		
Ewe	25.0	75.0		
Mole-Dagbani	8.3	91.7		
Other Ghanaian	11.1	88.9		
Occupation				
Professional	16.7	83.3	1.014	.798
Sales related	26.1	73.9		
Agric/homemaker/artisan	19.4	80.7		
Unskilled/other	26.1	73.9		
Marital status				
Never married	22.7	77.3	2.609	.271
Married	20.7	79.3		
Formerly	44.4	55.6		
Belief (NCDs cannot be treated in a hospital)				
No	21.7	78.3	0.123	.726
Yes	24.5	75.5		

Note. *p* is significant at 90% and 95%

The move also underscores Rosenstock et al.'s concept of self-efficacy, which relates to one's confidence in the ability to successfully perform an action in the face of the challenges of dealing with diseases that are chronic.^[25]

Atiemo^[22] has recognized the widespread belief in Ghana that spiritual power resides in the invisible world and can be accessed for improving the quality of life. He refers to the influence this belief has on private and public life in Ghana as "spiritual capital". In addition to being a feature of public and private life, most people in Ghana tap religious resources in their attempt to live a life of dignity and address life's challenges. Religion therefore occupies a central place in the consciousness of people and has affected the way people attempt to understand and relate to the world around them. According to Atiemo,^[22] religion is so pervasive in the life of people that we can identify what he termed as "popular religion", which is the manifestation of religious faith at the informal, unofficial level. It virtually runs through all faiths and religions so that there is no boundary to where people seek spiritual assistance in times of need. This may explain why religion did not have significant association with seeking treatment from prayer camps. Nonetheless, parents from denominations known to be more spiritually inclined (like the Charismatic/Pentecostals), were more likely to seek treatment from prayer camps than those perceived to be less spiritually inclined (like the Catholics).

5. CONCLUSIONS

The study aimed at looking at the relationship between adults' religious affiliation and their attitudes and perceptions to children's NCDs and how care givers of children with NCDs seek care for diseased children. Almost all the parents (99.2%) seek biomedical treatment for their children with NCDs and more than half use herbal preparations. That seems to suggest that Ghanaians view NCDs with the lens of the germ theory of disease. The religious affiliation of parents had no significant association with seeking treatment from prayer

camps, herbal treatment and spiritual interventions. Out of all the background characteristics, only age and sex of parents had significant association with seeking treatment from prayer camps. Parents who belong to Christian denominations which openly subscribe to spirituality such as Charismatic/Pentecostal Churches, known as spiritual churches in Ghana, were more likely to patronize prayer camps than those in other denominations as well as other religions. Generally more Christians seek treatment for their children from prayer camps than Muslims. The fact that parents from all religious affiliations, including Muslims and traditionalists, seek treatment for their children with NCDs from prayer camps, confirms Atiemo's assertion that in emergency situations, many Ghanaians seek help from any source including those outside their normal range of religious activities.^[22] Among the Christians, Catholics were more likely than parents from other Christian denominations to seek herbal treatment for their children's NCD condition, together with Muslims and Traditionalists/Spiritualists. In Ghana, there is the tendency for people to associate herbal treatment with fetishism and this could explain the non-committal attitude of parents from the other Christian denominations towards herbal treatment.

ACKNOWLEDGEMENTS

Financial assistance for the study was provided by the Office of Research and Innovation for Development (ORID), of the University of Ghana, Legon, Ghana through a grant (URF/5/LMG-002/2011-2012). We are grateful to all the children and their caregivers in the three health institutions where the survey was conducted. We are thankful to the authorities of the three health institutions (Korle-Bu Teaching Hospital, Komfo Anokye Teaching Hospital and The Volta Regional Hospital) and the Heads of the Clinical Units where the survey was conducted.

CONFLICTS OF INTEREST DISCLOSURE

The author declares no conflict of interest.

REFERENCES

- [1] Schmidt MI, Duncan BB, Silva GA, et al. Chronic non-communicable diseases in Brazil: burden and current challenges. *Lancet*. 2011; 377: 1949-61. [http://dx.doi.org/10.1016/S0140-6736\(11\)60135-9](http://dx.doi.org/10.1016/S0140-6736(11)60135-9)
- [2] World Health Organization. Preventing chronic diseases: a vital investment. Geneva: World Health Organization; 2005.
- [3] Sicree R, Shaw J, Zimmet. The Global Burden: Diabetes and Impaired Glucose Tolerance. Diabetes Atlas, IDF.4 edition. International Diabetes Federation: Brussels; 2009.
- [4] Mufunda J, Chatora R, Ndambakuwa Y, et al. Emerging non-communicable disease epidemic in Africa: Preventive measures from the WHO Regional Office for Africa. *Ethn Dis*. 2006; 16(2): 521-6. PMID: 17682258.
- [5] Nelson MJ, Ragland DR, Syme SL. Longitudinal prediction of adult blood pressure from juvenile blood pressure levels. *Am J Epidemiol*. 1992; 136: 633-645. PMID: 1442730.
- [6] Kotchen JM, MacKean HE, Neil M, et al. Blood pressure trends associated with changes in height and weight from early adolescence to young adulthood. *J ClinEpidemiol*. 1989; 42: 735-41. [http://dx.doi.org/10.1016/0895-4356\(89\)90069-3](http://dx.doi.org/10.1016/0895-4356(89)90069-3)
- [7] Ejike CECC, Ugwu C, Ezeanyika. Variations in the prevalence of

- point (pre) hypertension in a Nigerian school-going adolescent population living in a semi-urban and an urban area. *BMC Pediatrics*. 2010; 10: 13. PMID: 20214768. <http://dx.doi.org/10.1186/1471-2431-10-13>
- [8] Bao W, Threefoot SA, Srinivasan SR, et al. Essential hypertension predicted by tracking of elevated blood pressure from childhood to adulthood: the Bogalusa Heart Study. *Am J Hypertens*. 1995; 8: 657-65. [http://dx.doi.org/10.1016/0895-7061\(95\)00116-7](http://dx.doi.org/10.1016/0895-7061(95)00116-7)
- [9] Lauer RM, Clarke WR. Childhood risk factors for high adult blood pressure: the Muscatine Study. *Pediatrics*. 1989; 84: 633-41. PMID: 2780125.
- [10] De-Graft Aikins A, Addo J, Ofei F, et al. Ghana's burden of chronic non-communicable diseases: Future directions in research, practice and policy. *Ghana Med J*. 2012; 46(2): 1-3. PMID: 23661810.
- [11] Agyemang C, Redekop WK, Owusu-Dabo E, et al. Blood pressure patterns in rural, semi-urban and urban children in the Ashanti region on Ghana, West Africa. *BMC Public Health*. 2005; 5: 114. PMID: 16262905. <http://dx.doi.org/10.1186/1471-2458-5-114>
- [12] Ejike CECC, Ugwu CE, Ezeanyika LUS, et al. Blood pressure patterns in relation to geographic area of residence: a cross-sectional study of adolescents in Kogi State, Nigeria. *BMC Public Health*. 2008; 8: 411. PMID: 19087334. <http://dx.doi.org/10.1186/1471-2458-8-411>
- [13] Harrabi I, Belarbia A, Gaha R, et al. Epidemiology of hypertension among a population of school children in Sousse, Tunisia. *Can J Cardiol*. 2006; 22: 3. [http://dx.doi.org/10.1016/S0828-282X\(06\)70898-4](http://dx.doi.org/10.1016/S0828-282X(06)70898-4)
- [14] Ohene SA, Tettey Y, Kumoji R. Cause of death among Ghanaian adolescents in Accra using autopsy data. *BMC Research Notes*. 2011; 4. <http://dx.doi.org/10.1186/1756-0500-4-353>
- [15] Myers DG. *Social Psychology*. Boston: McGraw-Hill Co. Inc; 2002.
- [16] Webster's Ninth New Collegiate Dictionary. Markham, Ontario: Thomas Allen & Sons Ltd; 1990.
- [17] Boakye-Boaten A. Changes in the concept of childhood: implications on children in Ghana. *The Journal of International Social Research*. 2009; 3: 104-15.
- [18] Hill C, Ball H. Abnormal births and other "ill Omens". *Human Nature*. 1996; 7: 381-401. PMID: 24203447. <http://dx.doi.org/10.1007/BF02732900>
- [19] Daly M, Wilson M. (2008 [1984]). A sociobiological analysis of human infanticide. In: Hardy B, Hausfater G, eds. *A sociobiological analysis of human infanticide*. New York: Aldine Publishing Company; 2008: p487-502.
- [20] Böhmig C. There is Somebody in Heaven Who Takes care of You!: Nursing and the Religiosity on a Hospital Ward in Ghana. *Medische Anthropologie*. 2010; 22(1): 47-61.
- [21] Awedoba AK. Kasena Norms and Reproductive Health. *Institute of African Studies Research Review, Socio Cultural Dimensions of Reproductive Health and Human Development*. 2003; 18(1): 13-26.
- [22] Atiemo AO. *Religion and the Inculturation of Human Rights in Ghana*. Bloomsbury, London. 2013. PMID: 23695383.
- [23] Bantock G. The modern doctrine of bacteriology or the germ theory of disease. *The British Medical Journal*. 1997; 1(1997): 846-8.
- [24] Waller J. *The Discovery of the Germ: Twenty-Five Years That Transformed the Way We Think About Disease*. New York: Columbia University Press; 2002.
- [25] Rosenstock IM, Strecher VJ, Becker MH. Social learning theory and the health belief model. *Health Education & Behavior*. 1998; 15(2): 175-83. <http://dx.doi.org/10.1177/109019818801500203>