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NURSES' AND MIDWIVES' KNOWLEDGE OF DEVELOPMENTAL DISORDERS IN A GHANAIAN RURAL DISTRICT

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ABSTRACT

Misconceptions and superstitious beliefs on disability negatively influence healthcare providers' attitudes towards meeting the healthcare needs of children with developmental disorders or disabilities. This study assessed nurses and midwives' knowledge on developmental disorders and their perspectives on the causes/risk factors among children in the Wa-West, Ghana. A descriptive cross-sectional study was conducted and data were collected using self-administered questionnaire. Percentages, measures of central tendencies and Chi-squared analysis were conducted with the aid of SPSS version 14. Averagely, 76.4% participants responded correctly on general/basics of childhood disorders. However, 51(45.1%) believed all disorders lead to long-term disabilities with or without intervention. Many also attributed developmental disorders to curses 53(46.9%), bewitchment 51(45.1%), anger of ancestors/gods 54(47.8%) and mocking/teasing disabled people 50(44.2%). Only age (P = 0.011) was statistically significant with knowledge on risk factors/causes of developmental disorders while religion (P = 0.003) was statistically significant with general knowledge of developmental disorders. In conclusion, these widespread misconceptions and superstitious beliefs among nurses and midwives can hinder disability-awareness efforts and quality healthcare for children with disabilities in the Wa West district.

Keywords: Knowledge, Developmental Delays, Superstitious Beliefs and Misconceptions, Rural Community, Ghana.

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INTRODUCTION

Approximately, 150 million (1 child in every 20) of the world's children live with disabilities, of which majority (about 80%) live in poor areas like Africa and Southeast Asia (United Nations International Children's Fund, UNICEF, 2013, African Child Policy Forum, 2014; Gladstone, 2010). Generally, the prevalence of Children with Disabilities (CWDs) is on the rise and has increased by 15.6% between 2001/2002 and 2010/2011 (Houtrow *et al*., 2014). Likewise, the prevalence of developmental disabilities increased from 16.2% - 17.8% from 2015-2017 in the United States of America, and could be higher in developing countries (Zablotsky *et al*., 2019). Conditions such as malnutrition, extreme poverty, lifestyle and genetic/ chromosomal abnormalities, gestational age at delivery among others are noted for causing childhood delays or impairments (chronic health conditions which expose children to co-morbidities, deteriorating conditions and inhibits proper growth and development) (Miller, Huppi, and Mallard, 2016; UNESCO, 2013). Developmental delays/disorders are primary cause of childhood disabilities **(**Miller, Huppi and Mallard, 2016; Halfon *et al*., 2012).

The health needs of children with disabilities/ disorders is their basic human right (UNICEF, 2007) and achieving them contributes to realizing the Universal Health Coverage (UHC) and the Sustainable Development Goal 3 (SDG 3) (WHO; UNICEF, 2019). Therefore, timely identification of children with developmental disorders for medical interventions could reduce childhood disabilities and improve their well-being (Vampere *et al*., 2023; Miller, Huppi and Mallard, 2016; Lin *et al*., 2014). However, the disparities in access to healthcare between CWDs and their counterparts without disabilities are widespread (Adugna *et al*., 2020; Meade, Mahmoudi and Lee, 2014). More often, children born with developmental delays/disorders die during their childhood and if they survive, their condition gets worse or develops into permanent disabilities due to lack/inadequate access to primary healthcare (Adugna *et al*., 2020). Michael and Richardson (2008) also reported the occurrence of avoidable morbidities and deaths among CWDs at the primary care level.

Primary Health Care (PHC) providers are pivotal in meeting the healthcare needs of CWDs through timely identification of existing disorders or delays for prompt actions (Purvis *et al*., 2014). Through primary care, parents' are educated on important risk factors, symptoms and increase their sense of duty in caring for CWDs such as feeding, bathing, medication and other essential support services (Rosenthal *et al*., 2010). However, healthcare providers' attitudes towards CWDs and/or their families tend to compromise the quality of care CWDs could receive (WHO, 2011). Andrews *et al*., (2020) reported evidence of negative attitudes of healthcare providers such as nurses and doctors towards PWDs, either verbally expressed or implicit biases. These biases are often characterized by assumptions that tend to restrict or deprive PWDs of essential healthcare services. For instance, disabled women are more likely to encounter barriers to accessing gynecological screening due to the assumption that PWDs are asexual (Abells, Kirkham and Ornstein, 2016). Healthcare providers are mostly reluctant and disrespectful in attending to patients with disability, or demand additional remunerations as they considered it more labor-intensive (Agaronnik *et al*., 2019; Soltani *et al*., 2017).

In many parts of Africa, these negative attitudes are exacerbated by varied traditional beliefs and misconceptions among parents and healthcare providers that are deeply rooted in culture (Soltani *et al*., 2017; Munyi, 2012). Cultural beliefs predominantly influence policy, service availability and access, the attitude of service providers and families towards CWDs (Soltani *et al*., 2017; Meade, Mahmoudi and Lee, 2014; Stone-MacDonald and Butera, 2012). Parents' decisions to seek medical intervention for their CWDs are influenced by their perceptions of the disability causation. For example, having a child with a developmental delays/disorders or disability is linked to negative vices such as breaking taboos, curses, witchcraft, misdeeds of the parents, punishment from gods or God's divine blessings (Owusu *et al*., 2018; Soltani *et al*., 2017; Stone-MacDonald and Butera, 2012). These beliefs project CWDs as deviants from cultural norms and therefore not fit to join the community (Badu, 2011). In most instances, they are neglected from essential services such as education and healthcare as they find no hope in their future (Owusu *et al*., 2018). The feeling of pessimism becomes obvious and PHC providers are well positioned to correct such misconceptions among parents (Wang, Michaels and Day, 2011).

Education and training can positively change culturally-held misconceptions towards disability among PHC to achieve a rippling effect on community members (Phillips, England and Wishengrad, 2021). But the training of PHC providers is widely reported as inadequate especially for disability-specific interventions (Vampere *et al*., 2023; Li *et al*., 2017). This situation is worse in rural areas of Africa where tradition/cultural beliefs are respected and prioritized, perhaps due to limited education. In the Wa-West district of Ghana, parents' knowledge on the cause of their wards' impairments is largely based on cultural misconceptions as majority are uneducated (Owusu *et al*., 2018). That of PHC providers (nurses and midwives) is unknown; hence this study assessed their knowledge on developmental disorders.

METHODOLOGY

The Study's Methodological Approach and Design

We used a quantitative methodological approach in order to ensure an objective data collection and analysis. This approach allows for easy generalization of study results to individuals or settings with similar socio-demographics, as well as predictions into the future. A descriptive cross-sectional study design was used. Although this design does not allow for a detailed investigation into relationship between variables, Kesmodel (2018) believes it is appropriate and adequate for assessing knowledge and attitudes of healthcare providers. The descriptive cross-sectional design is also valid for establishing a preliminary evidence as basis for interventional studies or studies to ascertain causal relationships (Alexander, 2015).

The Setting of the Study

We conducted this study in Wa West district of Ghana, West Africa. It is a typical rural district and geographically, the largest district in the Upper West region with 1,492 Km^2 land area. It has a population of 96,957 (Ghana Statistical Service [GSS], 2021). The Wa West district is the poorest in Upper West region and second poorest nationwide with 61.9% of the people living in multi-dimensional poverty (GSS, 2021). The district is also deprived of economic resources, social infrastructure, healthcare providers, among other needs proportional to its size and population (GSS, 2014). The health infrastructure in the district includes Community-Based Health Planning Services (CHPS) compounds (30), clinics (6), maternity home (1) and polyclinic (1). The health workforce includes 161 nurses, 32 midwives, 3 physician assistants and 7 laboratory technicians (Vampere *et al*., 2023). Clearly, the healthcare delivery in the district is in the hands of the nurses and midwives who are less experienced, with over half of them trained for 2 years or less [See Table 1.0 below]. It also has 1 health education officer, 2 health information officers, 2 disease control officers and 2 nutrition officers (ibid). The district's disability population was 3%, of which 33.6% were those with visual impairments, physical (mobility) disabled (25.1%), the hearing impaired were 15.9% whiles 10.6% had speech difficulties (GSS, 2014).

Study Sample

The nurses and midwives formed the study sample from whom the participants were sampled. The nurses and midwives are the main primary healthcare providers and the first contact persons in the healthcare sector. They are directly responsible for identification, diagnosis, and referral or management of health conditions.

Sample Size Determination

The Yamane's (1967) sample size calculation formula

$$n= \frac{\boldsymbol{N}}{\boldsymbol{1+N(\alpha)}\ ^{\boldsymbol{2}}}$$

was used to determine the sample size. Where n = sample size, N = Population (ie nurses and midwives) =193, **α =** precision level = 0.05.

Therefore,

$$n= \frac{193}{1+193(0.05)\ ^{2}} = 130$$

(corrected to the nearest whole number). Therefore, the sample size for the study was 130.

Sample size of nurses = 161/193× 130 = 108 nurses

Sample Size of Midwives = 32/193 × 130 = 22 midwives

Sampling methods/techniques

The various health facilities were selected based on a simple random sampling technique, a probability method that gave all health facilities in the district equal chance of been selected. Both the maternity home and the polyclinic were first selected because they were one each. The list of the remaining health facilities (36) obtained from the district's health directorate were folded into a box and drawn. An additional 27 facilities (4 clinics and 23 CHPS) were drawn to obtain the required sample size.

The participants from the selected facilities were also recruited based on the simple random sampling method. The sampling procedure followed same method as indicated above (that is, by folding and drawing list of the participants from a box at each facility). Nurses and midwives who consented to the study were recruited and administered the questionnaire. Those who later withdrew their consent were replaced. We ensured independent sampling of the nurses and the midwives to ensure that both groups are represented. This method of sampling ensured fairness as all the nurses and midwives from the selected facilities had equal chances of been recruited.

Methods and Procedure for Data Collection

A structured questionnaire was designed for the data collection. The questions in it provided YES or NO, AGREE or DISAGREE, and TRUE or FALSE options. The questionnaire were designed in simple and unambiguous terms to be self-administered since all the participants had formal education. It took about 15 -20 minutes to complete questionnaire. The questionnaire was sectioned to collect the participants' demographic data, knowledge of childhood disorders/disabilities, and their causes.

The officer in-charge at each facility was contacted for additional permission to recruit the participants. Hard copies of the questionnaire were given to those who gave their consent to participate to be completed at a time convenient for them. Arrangement was however made for collection of the completed questionnaire.

Data Analysis Procedure

The data were analyzed descriptively with the help of the Statistical Package for Social Sciences (SPSS) version 14.0. The data were cleaned of errors such as inconsistent responses and also checked for accuracy and completeness. The responses were entered into MS-Excel and exported to the SPSS software for the analysis. Measures of central tendencies and percentages were computed and presented in frequency tables. A Chi-squared analysis was also performed to determine relationship between some variables.

Ethical Approval

Approval to conduct this study was granted by the Committee on Human Research and Publication Ethnics (CHRPE) of the Kwame Nkrumah University of Science and Technology (KNUST) (Reference number; CHRPE/AP/086/20). Additional approval was sought from the Regional Directorate of the Ghana Health Service (GHS), Upper West region (Reference Number; GHS/UWR/TP-51). The participants' identities were anonymized as their names, addresses, contact numbers and emails were not collected. The consent process was sought in the participants' preferred language (English, Waale or Brifor). Participants understood that they could withdraw their consent anytime they were uncomfortable.

Definitions of Operational terms

1. Adequate knowledge - Knowledge score of participants greater than or equal to 50%
2. Inadequate knowledge – Knowledge score of participants less than 50%

Determination of Knowledge Score

$$\frac{100}{\text{Number of questions}}\ x\ \text{Number of right responses}$$

FINDINGS

Participants' Demographics

The participants' age (Mean ± SD) was 29.32 ± 4.57 years, as many were aged between 20 and 29 years. They are dominated by females who were 63(55.8%) and Christians 71(62.8%) whiles few 4(3.5%) had obtained first degrees. Many of the participants were certificate holders 67(59.3%), which means they were trained for two years or less. The majority of the participants 103(91.2%) were at the clinics and CHPS compounds (classified as community level), whiles only 10(8.8%) were working at the polyclinic. At the time of the study, the participants had worked in their professions for 1.72 ± 0.647 years. Only a few 12(10.6%) had worked more than five years [See Table 1.0 below]

Table 1 .0 Participants' demographic characteristics

Demographics	Mean ± SD	Frequency (n= 113)	%
Sex			
Male		50	44.2
Female		63	55.8
Age	29.32 ± 4.573		
Religion			
Muslims		36	31.9
Christians		71	62.8
Traditionalists		6	5.3
Highest Qualification			
Certificate		67	59.3
HND/Diploma		42	37.2
Degree		4	3.5
Training Duration	2.48 ± 0.628		
≤2 years		67	59.3
2<years<4		38	33.6
≥4 years		8	7.1
Work Experience	1.72 ± 0.647		
<2 years		44	38.9
2-5 years		57	50.4
5+ years		12	10.6
Facility of work			
District's polyclinic		10	8.8
Community facility/CHPS		103	91.2
Profession			
Nurses		91	80.5
Midwife		22	19.5
Residential			
Natives		88	77.9
Non-natives		25	22.1

Source: Author's Survey, 2020

Participants' self-reported Level of Knowledge on developmental disorders

Table 2.0 below contains results from participants' self-reported knowledge on developmental disorders. Most of them said to be familiar with developmental disorders 84 (74.3%) as well as the causes and risk factors 88 (77.9%). Meanwhile, 30 (23.0%) of the participants doubted or disagreed on the adequacy of their training in developmental disorders.

Table 2.0 Participants' Self-reported Knowledge on developmental disorders

Area of Knowledge	RESPONSE n=113		
	Agree n (%)	Not Sure n (%)	Disagree n (%)
I am familiar with developmental disorders/delays in children	84 (74.3)	19 (16.8)	10 (8.8)
I am very knowledgeable on the risk factors and causes of developmental disorders/delays in children	88(77.9)	16(14.2)	9(8.0)
I was adequately trained on impairment in children	87(77.0)	12(10.6)	14(12.4)

Source: Author's Survey, 2020

General Knowledge of Childhood Impairments

From Table 3.0 below, an average of 76.4% participants responded correctly on various areas of inquiry, suggesting a good knowledge. For example, 95(84.1%) knew that not all impairments are permanent while 77(68.1%) knew all impairments are not temporary but can either be temporary or permanent 103(91.2%). However, as many as 51(45.1%) of the participants believed all impairments lead to long-term disabilities with or without intervention and 45(39.8%) also believed all impairments are caused by the previous history of disability in parents. These perceptions suggest gaps in knowledge among nurses and midwives.

Table 3.0 General Knowledge on developmental disorders

STATEMENT	RESPONSE (n=113)	
	Right N(%)	Wrong N(%)
All impairments are permanent and cannot be corrected	95(84.1)	18(15.9)
All impairments are temporary and can be corrected	77(68.1)	36(31.9)
Impairments can either be temporary or permanent	103(91.2)	10(8.8)
Impairments can be physiological or psychological	90(79.6)	23(20.4)
Impairments may result in other impairments if not intervened early	97(85.8)	16(14.2)
All impairments result in long term disabilities with or without intervention	62(54.9)	51(45.1)
Children can be born with multiple impairments	99(87.6)	14(12.4)
All impairments result from the previous history of disability in parents	68(60.2)	45(39.8)

Source: Author's Survey, 2020

Participants' knowledge of developmental disorders by their Profession, qualification and work experience

A cross-tabulation of the participants' knowledge below [see Table 3.1] showed that their educational level appears to have the most influence on their knowledge of developmental disorders. The higher the educational attainment, the more knowledgeable a participant was, as all 4(100%) of degree holders were knowledgeable in five assessment areas out of eight; three-quarters 3(75%) also knew the remaining three items. Also, more HND holders than certificate holders were more knowledgeable in six assessment areas. Similarly, more years of work experience appears to influence participants' knowledge of impairments. The results showed that 11(91.7%) or more of those who worked more than five years were all right in half of the assessment areas. Participants with 2-5 years and < 2 years of work experience did not show much difference in their level of knowledge. However, the profession seems to have the least influence on participants' knowledge of impairments.

Association between knowledge of impairment and socio-demographic characteristics

Table 3.2 presents information on the association between knowledge of impairment and socio-demographic characteristics of the participants. The results showed that showed only religion was statistically significant with knowledge on impairment ($p=0.003$) at a 95% confidence interval. However, males 47(94.0%) were slightly more knowledgeable than females 53(84.1%). All degree holders 4(100.0%) showed adequate knowledge, and more HND holders 38(90.5%) showed adequate knowledge than certificate holders 58(86.6%). This contradicts the self-reported level of knowledge, where more certificate holders claimed more knowledgeable on impairments than HND holders. All participants with over five years work experience 12(100.0%) showed adequate knowledge, but quite unexpectedly participants who worked <2 years 39(88.6%) were slightly knowledgeable than those who worked between 2-5 years 49(86.0%) on impairments just as it was initially self-reported. Also, more midwives 20(90.9%) had adequate knowledge than nurse 80(87.9%) consistent to the self-reported knowledge.

Knowledge on Causes and Risk Factors for Impairments in Children

The findings on Table 4.0 below showed that majority of the participants rightly attributed the cause/risk factors for impairments to medical factors such as poor nutrition 92(81.4%), underlying health conditions 103(91.2%), expectant mothers' lifestyle such as smoking 102(90.3%) and chromosomal abnormalities 103(91.2%). However, nearly half believed in misconceptions and superstitions such bewitchment 51(45.1%), curses 53(46.9%), mocking a disabled person 50(44.2%), breaching traditional/customary rules by parents 54(47.8%), and anger of the gods/ancestors 54(47.8%) as the cause impairments in children.

Table 3.1 Number of correct responses on developmental disorders (or impairments) by work experience, qualification and profession

General Knowledge of developmental disorders (Impairments)	RESPONSE n=113							
	Years of work			Edu. Level (qualification)			Profession	
	<2 yrs	**2-5 yrs**	**5+ yrs**	Certificate	HND	Degree	Nurse	Midwife
	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)
All impairments are permanent and cannot be corrected	36(81.8)	48(84.2)	11(91.7)	58(86.6)	33(78.6)	4(100.0)	79(86.8)	16(72.7)
All impairments are temporary and can be corrected	9(20.5)	8(14.0)	9(75.0)	15(22.4)	4(9.5)	3(75.0)	19(20.9)	1(4.5)
Impairments can either be temporary or permanent	35(79.5)	47(82.5)	11(91.7)	55(81.2)	34(81.0)	4(100.0)	75(82.4)	18(81.8)
Impairments can be physiological or psychological	30(68.2)	39(68.4)	8(66.7)	43(64.2)	31(73.8)	3(75.0)	64(70.3)	13(59.1)
Impairments may result in other impairments if not intervened early	34(77.3)	47(82.5)	9(75.0)	50(74.6)	36(85.7)	4(100.0)	70(76.9)	20(90.9)
All impairments result in long term disabilities with or without intervention	25(56.8)	31(54.4)	6(50.0)	33(49.3)	26(61.9)	3(75.0)	49(53.8)	13(59.1)
Children can be born with multiple impairments	40(90.9)	51(89.5)	12(100.0)	59(88.1)	40(95.2)	4(100.0)	81(89.0)	22(100.0)
All impairments result from previous history of disability in parents	39(88.6)	49(86.0)	11(91.7)	55(82.1)	40(95.2)	4(100.0)	78(85.7)	21(95.5)

Source: Author’s Survey, 2020

Table 3.2: Association between knowledge of impairments and socio-demographic characteristics

Characteristics	N	Knowledge of Impairments		
		Inadequate N(%)	Adequate N(%)	p-value
Gender				0.102
Male	50	3 (6)	47(94.0)	
Female	63	10 (15.9)	53(84.1)	
Age				0.737
10-19	1	0(0.00)	1(100.0)	
20-29	63	9(14.3)	54(85.3)	
30-39	45	4(9.1)	41(91.1)	
40-49	3	0(0.00)	3(100.0)	
50-59	1	0(0.00)	1(100.0)	
Qualification				0.501
Certificate	67	9(13.4)	58(86.6)	
Diploma/HND	42	4(9.5)	38(90.5)	
Degree	4	0(0.00)	4(100.0)	
Profession				1.00
Nurse	91	11(12.1)	80(87.9)	
Midwife	22	2(9.1)	20(90.9)	
Work Experience				0.195
<2 years	44	5(11.4)	39(88.6)	
2-5 years	57	8(14.0)	49(86.0)	
5+ years	12	0(0.00)	12(100.0)	
Facility Type				0.602
District Hospital	10	0(0.00)	10(100.0)	
Community/CHPS	103	13(12.6)	90(87.4)	
Religion				0.003
Muslim	36	4(11.1)	32(88.9)	
Christian	71	5(7.0)	66(93.0)	
Traditionalist	6	4(66.7)	2(33.3)	
Tribe				
Natives	88	13(14.8)	75(85.2)	0.069
Non-natives	25	0(0.00)	25(100.0)	

Mean ± SD 77.08 ± 21.89

Source: Author's Survey, 2020

Table 4.0 Participants' knowledge on risk factors/causes of developmental disorders (impairments) in Children

Causes/Risk Factors	Response (n=113)	
	Right N (%)	Wrong N (%)
Can a child acquire impairment later in life?	101(89.4)	12(10.6)
Bewitchment	62(54.9)	51(45.1)
Curses	60(53.1)	53(46.9)
Eating taboo foods by pregnant women	74(65.5)	39(34.5)
Extra-marital sex outside traditional marriages	66(58.4)	47(41.6)
Forced sex between quarreling couples	76(67.3)	37(32.7)
Poor nutrition	92(81.4)	21(18.6)
Mockery/teasing a disabled person by women	63(55.8)	50(44.2)
Health conditions (e.g polio, measles)	103(91.2)	10 (8.8)
Mother's lifestyle such as smoking	102(90.3)	11 (9.7)
Excluding a child from screening programs	23(20.4)	90(79.4)
Breach of traditional/customary rules by parents	59(52.2)	54(47.8)
Anger of ancestors/gods	59(52.2)	54(47.8)
Severe injuries to expectant mothers	98(86.7)	15(13.3)
Genetic or chromosomal abnormalities	103(91.2)	10(8.8)

Source: Author's Survey, 2020

Knowledge on Causes of Developmental disorders Children by Profession, Qualification, and Ethnicity

In Table 4.1 below, education had the most influence on the participants' knowledge of the causes and risk factors for childhood impairments whiles ethnicity had the least influence. All degree holders 4(100.0%) correctly identified all the medical causes of impairments that were assessed, three-quarters 3(75.0%) disagreed with four superstitions whiles half (50%) agreed to the other four superstitions as the cause/risk factors for impairment. In most cases, a nearly equal proportion of certificate and HND holders showed knowledge in the areas of assessment as shown on Table 4.1.

Only a little over half of both natives 48(54.5%) and non-natives 14(56.0%) disagreed that bewitchment can cause impairment. Also, 47(53.4%) natives and 13(52.0%) non-natives disagreed that curses could cause impairment. Similarly, a nearly equal proportion of midwives 20(90.9%) and nurses 82(90.1%) knew that a mother's lifestyle such as smoking could cause impairments. However, 41(45.1%) nurses and 10(45.5%) midwives attributed impairments to bewitchment.

Table 4.1 Participants who correctly recognized Causes and Risk Factors of Impairments in Children by Profession, Ethnicity, and Qualification

Causes and Risk Factors for Impairments	Response (n=113)						
	Profession		Qualification			Ethnicity	
	Nurses	midwives	Certificate	HND	Degree	Natives	Non-natives
	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)
Can a child acquire impairment later in life?	81(89.0)	20(90.9)	60(89.6)	37(88.1)	4(100.0)	79(89.8)	22(88. 0)
Bewitchment	50(54.9)	12(54.5)	36(53.7)	23(54.8)	3(75.0)	48(54.5)	14(56.0)
Curses	45(49.5)	15(68.2)	34(50.7)	24(57.1)	2(50.0)	47(53.4)	13(52.0)
Eating taboo foods by pregnant women	58(63.7)	16(72.7)	45(67.2)	26(61.9)	3(75.0)	57(64.8)	17(68.0)
Extra-marital sex outside traditional marriages	51(56.0)	15(68.2)	40(59.7)	24(57.1)	2(50.0)	52(59.1)	14(56.0)
Forced sex between quarrelling couples	61(67.0)	15(68.2)	47(70.1)	26(61.9)	3(75.0)	58(65.9)	18(72.0)
Poor nutrition	76(83.5)	16(72.7)	54(80.6)	34(81.0)	4(100.0)	71(80.7)	21(84.0)
Mockery/teasing a disabled person by women	53(58.2)	10(45.5)	38(56.7)	23(54.8)	2(50.0)	47(53.4)	16(64.0)
Health conditions (e.g polio, measles)	84(92.1)	19(86.4)	60(89.6)	39(92.9)	4(100.0)	78(88.6)	25(100.0)
Mother's lifestyle such as smoking	82(90.1)	20(90.9)	60(89.6)	38(90.5)	4(100.0)	77(87.5)	25(100.0)
Excluding child from screening programs	19(20.9)	4(18.2)	16(23.9)	7(16.7)	0(0.0)	18(20.5)	5(20.0)
Breach of customary or traditional rules by parents	47(51.6)	12(54.5)	35(52.2)	22(52.4)	2(50.0)	42(47.7)	17(68.0)
Anger of ancestors/gods	47(51.6)	12(54.5)	36(53.7)	20(47.6)	3(75.0)	44(50.0)	15(60.0)
Severe injuries to expectant mothers	80(87.9)	18(81.1)	58(86.6)	36(85.7)	4(100.0)	74(84.1)	24(96.0)
Genetic or chromosomal abnormalities	81(89.0)	22(100.0)	59(88.1)	40(95.2)	4(100.0)	79(89.8)	24(96.0)

Source: Author's Survey, 2020

Association between socio-demographic characteristics and Knowledge on causes and risk factors for childhood impairment

From Table 5.2 below, most demographic characteristics appear to influence participants' knowledge of causes and risk factors for impairment. Females 48(76.2%) were slightly knowledgeable than males 37(74.0%). AAll degree holders were found to be knowledgeable on causes and risks factors for childhood impairment. However, certificate holders 50(74.6%) were slightly knowledgeable than HND holders 31(73.8%). Similarly, midwives 18(81.8%) were slightly knowledgeable than nurses 67(73.6%). This indicates that while some participants underrated their knowledge, others overrated their knowledge on the causes and risk factors for impairments.

Statistically, there was no significant association between the demographic characteristics and the knowledge on causes and risk factors for impairments, except for age (P = 0.01) when tested at a 95% confidence interval (P=0.05).

Table 5.2: Association between socio-demographic characteristics and Knowledge on causes and risk factors for impairment

Demographic Characteristics	Knowledge of causes and risk factors for impairment			
	N	Inadequate n(%)	Adequate n(%)	p-value
Gender				0.789
Male	50	13 (26.0)	37(74.0)	
Female	63	15(23.8)	48(76.2)	
Age				0.011
10-19	1	1(100.0)	0(0.00)	
20-29	63	15(23.8)	48(76.2)	
30-39	45	9(20.0)	22(80.0)	
40-49	3	3(100.0)	0(0.00)	
50-59	1	0(0.00)	1(100.0)	
Qualification				0.311
Certificate	67	17(25.4)	50(74.6)	
Diploma/HND	42	11(26.2)	31(73.8)	
Degree	4	0(0.00)	4(100.0)	
Profession				0.424
Nurse	91	24(26.4)	67(73.6)	
Midwife	22	4(18.2)	18(81.8)	
Work Experience				0.676
<2 years	44	9(20.5)	35(79.5)	
2-5 years	57	16(28.1)	41(71.9)	

5+ years	12	3(25.0)	9(75.0)	
Facility Type				1.00
District polyclinic	10	2(20.0)	8(80.0)	
Community facility/ CHPS	103	26(25.2)	77(74.8)	
Religion				0.160
Muslim	36	13(36.1)	23(63.9)	
Christian	71	14(19.7)	57(80.3)	
Traditionalist	6	1(16.7)	5(83.3)	
Tribe				0.919
Natives	88	22(25.0)	66(75.0)	
Non-natives	25	6(24.0)	19(76.0)	
Mean ± SD 67.52±20.01				

Source: Author's Survey, 2020

DISCUSSIONS

Healthcare providers' attitude towards patients with disabilities can significantly improves the quality of healthcare delivery and health seeking behavior of persons with disabilities. For Children with Disabilities (CWDs), their parents'/caregivers decisions to invest in meeting their healthcare needs can partly be influenced by the healthcare providers' attitude or advice received on their ward's impairment. However, this study found a wide spread misconceptions and superstitious among nurses and midwives on childhood impairments as earlier reported by Owusu *et al*., (2018), Gyamfi (2015) and Baffoe, (2013). Attributing impairment to curses, gods/witchcraft, or the result of parents' previous history of disability suggest a deep-seated misconception of disability causation in Ghana and for that matter Africa as non-natives also held on to such beliefs. Perhaps, disability awareness programs do not seem effective.

Notwithstanding, the affirmation of these already held misconceptions among the general public by nurses and midwives was least expected considering that all participants had formal education and are key in correcting disability-related misconceptions among mothers. Midwives for instance are positioned to educate mothers on impairments prevention during pregnancy, postpartum period, at birth, and after birth (Rosenthal *et al*., 2010; Biernath, Holstrum, and Eichwald; 2009). It is therefore much worrying that nurses and midwives who are the first-point-of-contact healthcare providers (Purvis *et al*., 2014) will not be in the position to debunk parents' misconceptions on their wards impairments. This has a great potential of hindering CWDs access to healthcare intervention services, disability inclusion initiatives and efforts of advocacy groups that seek to correct misconceptions about disability especially in rural areas like the Wa West district (Wickenden, Nixon and Yoshida, 2013).

For instance, the perception that all impairments are permanent or all impairments lead to long-term disabilities with or without intervention could make PHC providers reluctant in the provision of early intervention or referral services to avert or mitigate the consequences of impairments on the child. This could further exacerbate parents' reluctance to invest in the healthcare needs of their wards with impairments, as they already perceive them as liabilities and hopeless (Owusu *et al*., 2018). PHC are therefore more likely to give a pessimistic or inappropriate information/advice to parents on their wards' impairments (Wang, Michaels and Day, 2011) which will render them to resort to only spiritual or traditional healing methods for their wards with disabilities in the Wa West district. This put the survival of children with impairments in the district at risk as the quality of care they could receive will be compromised (WHO, 2011), hence leading to preventable mortalities or permanent disabilities (Adugna *et al*., 2020; Michael and Richardson, 2008). This will subsequently defeat the essence of early intervention which is aimed at preventing impairments from deteriorating and improving functioning (Lin *et al*., 2014).

Even though the perception that all impairments as temporary could lead to increased efforts by both healthcare providers and parents towards seeking medical intervention for CWDs, it can also overemphasize false hope to parents. Eventually, this can potentially cause parents to mistrust the PHC system if their ward's impairment persists after seeking medical intervention (Tucker *et al*., 2015; Ozawa and Sripad, 2013). Parents can even resort to physical violence against health workers out of frustration and a feeling of being deceived (Sharma, 2017). Cerebral Palsy, for instance, is permanent damage caused to the brain, even though functioning may be improved through early intervention. Therefore, accurate information could reduce parents' frustration and allows them to plan for their child's educational, health, growth and developmental needs.

These gaps in knowledge can be attributed to inadequate training or education of the PHC providers as earlier reported by Bhana *et al*., (2010). This study confirmed that over half of the participants were trained for only two academic years (certificate holders) and about 30% of participants reported not having adequate training on childhood impairments. According to Calma, Halcomb, and Stephens (2019), adequate training and practice are necessary for PHC providers to become familiar and knowledgeable with impairments including causes and risk factors. Similarly, this study found participants with higher education (degree holders) and more years of work exposure to be more knowledgeable on childhood impairments. Phillips, England and Wishengrad (2021) study suggested that the lack of disability-competence training among healthcare providers limit their scope of knowledge to the medical model, hence they have challenges dismantling already held misconceptions and reshaping their attitudes towards disability. Evidence from this study confirmed that majority of the participants were knowledgeable on the medical-related causes of impairments, but many still hold on to the superstitious causes.

CONCLUSION AND RECOMMENDATIONS

Superstitious believes among nurses and midwives in the Wa West districts seem no different from the general public as already reported in various studies. Children with Disabilities in the Wa West district are therefore likely to continue to suffer many unmet healthcare needs and compromised quality of care due to various misconceptions held by the healthcare providers. This study further suggests that education can positively influence healthcare providers' knowledge and perhaps attitude towards disability in the Wa West district.

This study recommended for a disability-competence training of healthcare providers fully integrated into the curricular of health trainees. Additionally, there should be a regular In-service training for healthcare providers geared towards dismantling misconceptions towards disability and encouraging positive attitudes.

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DECLARATION OF INTEREST:

All authors in this study declare no conflict of interest

DATA AVAILABILITY

The data set associated with this study is with the corresponding author and will be shared on reasonable request.

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