Knowledge, Attitudes and Practices of the Parents/Caregivers on Homebased Management of Diarrhoea in Children Under Five Years at a Local Hospital in Namibia

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ABSTRACT

Background: Diarrhoea illnesses is the leading cause of death in children under five years old globally. Proceeded studies showed limited evidence on knowledge, attitudes and practices of the parents/caregivers in prevention and management of diarrhoea in children.

Objectives: This study aims to assess the knowledge, attitudes, practices and socio-demographic variables of parents and caregivers of children under five years.

Methodology: A quantitative, descriptive and analytical design was used. A systematic sampling technique of random sampling method was used to collect data using questionnaires. Data was prepared and entered into SPSS version 29 for analysis. Pearson's correlation was used to examine the correlation between the demographic variables and the knowledge, attitude and practices scores, while Chi-square cross tabulation was applied to test the associations.

Results: Out of 400 parents and caregivers, 96.3% had good level of knowledge, 81.5% had negative attitudes, while 87.7% had poor level of practice. The practices of the parents and caregivers are significantly, negatively correlated to the parents' ages. In addition, attitudes were positively correlated to practice and knowledge was found to be positively correlated to the attitude.

Conclusion: Residences, employment status, marital status and chiefly educational level are associated with the knowledge, attitudes and practices on home based management of diarrhoea. The study provides an insight on management of diarrhoea in children, conversely contributing to the comprehensive understanding on how sociodemographic variables affect the knowledge, attitudes and practices of parents/caregivers.

Keywords: Knowledge; Attitude; Practice; Diarrhoea; Homebased management; Children; Parents/Caregivers.

INTRODUCTION

Diarrhoea is a passage of unformed watery, mucoid or bloody stools three or more than three times a day, consequently to gastro-intestinal infections which are mostly as a result of parasitic worms, bacteria and viruses (World health Organisation [WHO] 2019). Assessing parents and caregivers on management of diarrhoea may determine the knowledge level, atttitudes and practices of parents and caregivers on home based management of diarrhoea in children under the age of five years which are crucial when making public health decisions and inititiation of target interventions.

Lack of community awareness on diarrhoea, poor parental knowledge about diarrheal illness, poor management of diarrhoea and poor hygiene are managing impediments to effective and timely health interventions on diarrhoea illnesses among children.Diarrhoea is a leading cause of morbidity nd mortality in children under five years old globally, predominantly in undeveloped countries where there is poor knowledge and practice in the management of diarrhoea diasease (Terefe, 2022). Walker-smith and McNeish, (2016) reported that, around 2 000 000 children globally, suffer from diarrhoea annually and each diarrhoea episode deprives children of the vital nutrients responsible for growth. In addition, diarrhoea is the third leading cause of mortality among children under the age of five years in South Africa and it is reported that parent's poor usage of ORS at home when children have diarrhoea lead to dehydration and subsequent deaths (WHO, 2017).

The Namibia Statistics Agency [NSA] (2018) report on mortality and causes of death indicated diarrheal diseases as the sixth cause of death among persons of all ages and the second & third leading cause of children under the age of five years deaths in 2016 and 2017 respectively. The national prevalence of diarrheal disease in Namibia is at 17% and 5% of deaths occur among children under five years (MoHSS, 2021). Oral rehydration solution is poorly utilized by mothers and caregivers when managing diarrhoea at home, despite its extensive uses of rehydration (Terefe, 2022).

A study conducted in Ohangwena region, Engela district Bauleth, Mitonga and Pinehas, (2020) indicated the prevalence of diarrheal diseases among children under the age of five years at 23.8%. Children under the age of five years attended at Intermediate hospital Rundu had high annual prevalence of diarrhoea infections of 4128 cases and a mortality rate of 82 children under the age of five years. Children may have more than one episodes of diarrhoea in a month. Parents and caregivers initiates management of diarrhoea while at home, however children were given enema with herbs while delaying proper healthcare at the health facilities. Subsequently, children suffer from dehydration and may demise. Therefore, this study suit to assess the knowledge, attitudes and practices of parents and caregivers on management of diarrohea in children under the age of five years.

METHODOLOGY

Study design: A quantitative, descriptive and analytical designs was used. Analytical design confirm predictions and establish causal relationships between variables, while descriptive design provide accuracy of events, conditions and attitudes of parents and caregivers towards diarrhoea.

Study setting: The study was conducted at Intermediate Hospital Rundu, Outpatient Department located in Kavango East region. Rundu is in the Eastern part of Namibia, closer to the Angola borders. Hence, some of the patients attended at Rundu hospital are from Angola. Rundu hospital is an intermediate, teaching hospital, which serves the community of thirteen health districts. The children with diarrhoea are attended to at paediatric outpatient consultations, casualty department in cases of emergency cases.

Study population: The study population include 4128 parents and caregivers of children under the age of five years old. The study only included parents and caregivers whose children were under the age of five years, parents/caregivers within Rundu district and had presented with diarrhoea illnesses during the data collection exercise.

The sample size determination:

The sample for this study was determined using the Yamane formula of 1968.

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

n = sample size

N = population size ()

a = level of significance or acceptable sampling error, which is (5%)

The population size was 4128 parents/caregivers, therefore a sample size of 400 parents and caregivers was determined using the formula.

Sampling technique:

The study used a sytematic random sampling technique. The first respondent was selected using the random sampling method and the subsequent respondents were selected based on a systematic interval in a numdered population. Therefore, every tenth parent/caregiver was regarded as a potential respondent for the study.

4128 (population) ÷ 400(sample) = systematic interval of 10

Data collection tool:

Self-developed Likert scaled questionnaireswih four sections were used to capture the sociodemographic data of the parents/caregivers, evaluate the knowledge, attitude and practices of the parents/caregivers on diarrhoea management.

Validity and reliability

The self-designed questionnaires were developed by theresearcher with guidance of the supervisor and the statistician. Research questionnaires were share with the University Decentralised Ethical Committe, Ministry of Health and Social Services in order to evaluate the appropriateness, institutional and ministerial standards. The five likert scaled questionnare had four sections: Demographing data, Knowledge, Attitudes and Practices questions.

These questionnaires were chlearly written, unambiquious and easy to understand. Questionnaires were initially made in English and then translated into the local Rukwangari language. Forward and backward translation steps were taken to ensure the quality of the final Rukwangari version.

The pilot study was done using the questionnaires to determine the feseability of the study and make sure that the tool measures what it suppose to measure.

Data analysis:

Data analysis was carried out by using the International Business Machine (IBM) Statistical Package for Social Sciences (SPSS) version 29 for analysis. Descriptive statistics like frequencies, percentages, means, and standard deviations were performed. The Pearson's analysis was used to examine the correlation between the continuous variables such as knowledge, attitude and practices scores. The Chi-square cross tabulation was applied to test the associations between the categorical variables.

Ethical consideration

Ethical clearance was obtained from the University of Namibia Decentalised Ethical Committe, Reference number: DEC OSH 0073. Permission to conduct the study was obtained from the Ministry of Health and Social services, Reference number: REF 22/4/2/3; Rundu mediccal superintedent, reference number: REF 22/3/1/2. Respondents written informed consents were made in local Rukwangali and English laguange. The research debrief potential respondents about the nature of the study prior data collection. Respondents were informed of their right to participated and the right to discontinue from the study at any point of time, without any penalty. All respondents were treated ethically and morally according to the Declaration of Helsinki.

RESULTS

Demographic data

A total of 400 questionnaires were collected from the Outpatient Department of the Intermediate Hospital Rundu. Majority of the respondents (71.25%) were female, whereas minority (28.25%) where male. Around

65.6% respondents were single, while 111 (27.7%) were married. In addition, 3.4% of the respondents were divorcees, while 3.2% were minors under the age of 18 years old. The study findings indicated that 96% of the respondents were Christians and only 4% were Islamic. Out of the 400 respondents, majority of the parents and caregivers (52.3%) had attended tertiary institutions, 37.5% respondents had attended secondary education, while 6.3% had completed primary education and 3.8% of respondent did not have formal education.

Regarding the employment statuses, 29.2% of the respondents were employed, while majority of the respondents were unemployed (70.8%). The 64.2% of respondents reside in urban area, while 35.8% of respondents reside in rural areas.

The respondents were parents and caregivers of children who had diarrhoea during the data collection process. Majority of respondents 38.7% had only one child under the age of five years, 24.4% respondents had two children, followed by 14.2% of respondents with three children in their households, 11.2% of respondents had four children under five years and 6.2% respondents had five children under five years in their households. On the other hand, a minority group of respondents had six, seven, eight, nine and whose percentages were 2.5%; 1.7%; 0.5%;0.2% and 0.2% respectively.

On the other hand, the study revealed that (127) 31.9% of the children under the age of five years that had diarrhoea during the data collection process were 12-23 months, followed by the children age group of 0-11 months reported at 111 (27.7%), 48-59 months with frequency of 65 (16.3%) then, 24-35 months were 57 (14.2%), then and the least presented age group was 36-47 months with frequency of 39 (9.8%).

Table 1: The sociodemographic traits distribution among the respondents

Sociodemographic characteristics	**Frequency**	**Percentage (%)**
Gender		
Male	115	28.75
Female	285	71.25
Total	**400**	**100**
Marital statuses		
Single	263	65.6
Married	111	27.7
Divorce	13	3.4
Minor	13	3.2
Total	**400**	**100**
Religion		
Christian	385	96
Islam	15	4
Total	**400**	**100**
Educational level		
Tertiary education	209	52.3
Secondary education	150	37.5
Primary education	25	6.3
No formal education	15	3.8
Total	**400**	**100**
Employment status		
No	283	70.8
Yes	117	29.2
Respondent residence		
Urban	257	64.2
Rural	143	35.8
Total	**400**	**100**

Number of children under five years in the houses		
0ne	155	38.7
Two	98	24.4
Three	57	14.2
Four	45	11.2
Five	25	6.2
Six	10	2.5
Seven	7	1.7
Eight	2	0.5
Nine	1	0.2
Twelve	1	0.2
Total	**400**	**100**
Ages of the children		
0-11 months	107	27.7
12-23 months	123	31.9
24-35 months	55	14.2
36-47 months	38	9.8
48-49 month	63	16.3
Total	**400**	**100**

Correlations between the demographic variables and the knowledge, attitudes, practices of parents and caregivers

The age of the respondents was found to be significantly, negatively correlated to the practices (r= -0.191; p<0.001). However, there was no significant correlation between age and attitudes and knowledge (r= -0.008; p<0.879) and (r= -0.019; p<0.710) respectively. Furthermore, attitude of parents and caregivers are significantly, positively correlated to practices of the parents and caregivers (r= 0.341; p<0.001), while knowledge was found to be significantly, positively correlated to attitude (r= 0.206; p<0.001). Table 2 also illustrates a significant positive correlation found between knowledge and practices of the respondents (r= 0.322; p<0.001).

Table 2: The correlations between KAP and the respondents' continuous variable

		Age	**Practice**	**Attitude**	**Knowledge**
Age	Pearson Correlation	1	-0.191	-0.008	-0.019
	P		<0.001	0.879	0.710
Practice	Pearson Correlation	-0.191	1	0.341	0.322
	P	<0.001		<0.001	<0.001
Attitude	Pearson Correlation	-0.008	0.341	1	0.206
	P	0.879	<0.001		<0.001
Knowledge	Pearson Correlation	-0.019	0.322	0.206	1
	P	0.710	<0.001	<0.001	

Association between demographic variables, knowledge, attitudes, practices of parents and caregivers on homebased management of diarrhoea

The study revealed that, the knowledge of the respondents is significantly associated with the educational level of the respondents (p< 0.011). Furthermore, knowledge on homebased management of diarrhoea is associated with the residences of the parents and caregivers (p< 0.024).

On the other hand, the educational level was significantly associated with the attitude of parents and caregivers (p< 0.002) on homebased management of diarrhoea in children under the age of five years. In addition,

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employment status (p< 0.052) of the parents and caregivers was found to be averagely associated with the attitudes of the respondents.

There is a strong significant association marital status and the practices of the parents and caregivers on management of diarrhoea (p<0.006). In addition, the practice of parents and caregivers is found to be statistical significantly associated with the educational level (p< 0.004). The employment status of the parents and caregivers (p<0.004) was found to be significantly associated with the practices.

Table 3: The associations of sociodemographic characteristics and knowledge.

Knowledge*Educational Level					
Variables	Primary	Secondary	Tertiary	No formal education	P value
Poor	3	5	3	2	0.011
Good	22	145	206	13	
Knowledge status * residence					
Variables		Rural area	Urban area		P value
Poor		9	5		
Good		134	251		0.024
Knowledge*Religion					
Variables		Christian	Islam		P value
Poor		13	1		
Good		3772	14		0.540
Knowledge * Gender					
Variables		Males	Females		P value
Poor		6	8		
Good		108	277		0.475
Knowledge*Marital status					
Variables	Single	Married	Divorcee	Minor	P value
Poor	7	5	0	2	0.077
Good	256	106	14	11	
Knowledge*employment status					
Variables		Yes	No		P value
Poor		2	12		0.212
Good		115	272		
Knowledge * Age of the child					
Variables	0-11 months	12-23 months	24-35 months	36-47 months	48-59 months	P values
Poor	7	3	1	0	2	
Good	100	120	54	38	63	0.246
Knowledge * Lost child					
Variables		Yes	No		P value
Poor		4	6		
Good		40	316		0.137

Table 4: The association of different demographic categorical variables with certain attitudes of the parents and caregivers

Attitudes* Educational level					
Variables	Primary	Secondary	Tertiary	No formal education	P value
Negative	17	112	183	13	
Positive	8	38	26	2	0.002
Attitudes * Employment status					
Variables	Yes		No		P value
Negative	102		224		0.052
Positive	15		60		
Attitudes * Religion					
Variables	Christian		Islamic		P value
Negative	312		15		
Positive	73		1		0.199
Attitudes * Gender					
Variables	Males		Females		P value
Negative	92		232		
Positive	22		53		0.879
Attitudes* Marital status					
Variables	Single	Married	Divorcee	Minor	P value
Negative	214	93	12	7	
Positive	49	18	2	6	0.070
Attitudes * Residence					
Variables	Rural area		Urban area		P value
Negative	112		213		0.229
Positive	31		43		
Attitudes * Age of the child					
Variables	0-11 months	12-23 months	24-35 months	36-47 months	48-59 months	P values
Negative	89	92	43	31	56	
Positive	18	31	12	7	7	0.280
Attitudes * lost child					
Variables	Yes		No		P value
Negative	34		264		0.765
Positive	10		60		

Table 5: below shows the association of different demographic categorical variables with certain respondents' practices

Practices*Educational level					
Variables	Primary	Secondary	Tertiary	No formal education	P values
Poor	23	136	176	15	0.004
Good	2	14	33	0	
Practices * Employment status					
Variables	Yes		No		P value
Poor	111		240		0.004
Good	6		44		
Practices*marital status					
Variables	Single	Married	Divorcee	Minor	P value
Poor	220	106	14	12	0.006
Good	43	5	0	1	
Practices * Gender					
Variables	Male		Female		P value

Poor		104		245	
Good		10		40	0.332
Practices * Religion					
Variables		Christian		Islamic	P value
Poor		335		16	0.123
Good		50		0	
Practices * Residence					
Variables		Rural area		Urban area	P value
Poor		130		219	0.121
Good		13		38	
Practices * Age of the child					
Variables	0-11 months	12-23 months	24-35 months	36-47 months	48-59 months	P values
Poor	92	113	46	34	54	0.227
Good	15	10	9	4	6	
Practices * lost child					
Variables		Yes		No	P value
Poor		40		282	0.810
Good		4		42	

ANOVA and the knowledge score

There were statistically significant differences between the group means of the marital status of respondents and answering the knowledge-based question on homebased management of diarrhoea in children ($p<0.001$). There were statistically significant differences between the group means of the respondents' religion and answering the knowledge-based question on homebased management of diarrhoea in children ($p<0.003$). The significance value ($p<0.001$) infers to a statistically significant differences between the group means of the respondents who never had formal educations, respondents who attended primary, secondary education, tertiary education were able to respond to the knowledge-based question on homebased management of diarrhoea in children. There was a significance value of <0.001 between the ages of children variances to the knowledge scores. There was a statistically significant differences between the group means of the respondents' diarrhoea in children.

Table 6: The group statistical description of the parents and caregivers marital statuses

Variables	**N**	**Mean**	**Std. Deviation**
Single	262	12.35	2.062
Married	111	11.71	2.209
Divorcee	14	11.07	2.093
Minor	13	10.31	2.689
Total	**400**	**12.06**	**2.170**

Table 7: The group statistical description of the parents and caregivers religion

Variables	**N**	**Mean**	**Std. Deviation**
Christian	385	12.12	2.162
Islam	16	10.50	2.098
Total	**401**	**12.06**	**2.180**

Table 8: Knowledge and educational level

Variables	**N**	**Mean**	**Std. Deviation**
Primary	25	11.00	2.603
Secondary	150	11.55	2.197
Tertiary	209	12.68	1.865
No formal education	16	10.76	2.299
Total	**400**	**12.07**	**2.161**

Table 8: Knowledge and age of children:

Variables	N	Mean	Std. Deviation
0-11 months	107	11.26	2.534
12-23 months	123	12.10	1.897
24-35 months	65	12.36	1.938
36-47 months	38	12.71	1.958
48-59 months	67	12.19	2.228
Total	**400**	**12.02**	**2.174**

DISSCUSSION

Correlations between the demographic variables and the knowledge, attitudes, practices of parents and caregivers

The age of the respondents was found to be significantly, negatively correlated to the practices (r= -0.191; p<0.001). The study found out that as the parents and caregivers grows old, their practices on homebased management becomes poorer. The knowledge decreases with age, conversely if the parents have poor knowledge level; their attitudes and practices become poorer. Furthermore, attitude of parents and caregivers are significantly, positively correlated to practices of the parents and caregivers (r= 0.341; p<0.001), while knowledge was found to be significantly, positively correlated to attitude (r= 0.206; p<0.001). The results revealed significant correlations between the knowledge, attitudes and practices of the parents and caregivers. Thus, the knowledge gap may be better explained by the Health Believe Model.

Association of the knowledge, attitudes, practices and socio-demographics of the parents and caregivers

Socio-demographic data of the respondents are associated with the knowledge, attitudes and practices of the parents and caregivers homebased management of diarrhoea in children under the of five years. Similarly to the illustrative table 4.10, the respondents' educational level (p< 0.011) and residence (p<0.024) were associated with knowledge of the parents and caregivers on homebased management of diarrhoea, while the gender, marital status, religion, employment status, age of the children and lost children were not significantly associated with knowledge of the parents and caregivers. the study conducted by Dodicho 2016 in Ethiopian showed a strong significant association of age (p<0.000) and educational status (p<0.001) of mothers with better knowledge of mothers on home management of diarrhoea in under-fives children.

The study conducted at Ruli health centre concurred that age had (p<0.035) and wealth status had (p<0.033) are associated with knowledge of mothers on homebased management of diarrhoea (Archarge, 2019). Similarly, Momoh et al. (2022) revealed a significant association between the age, level of education and the knowledge of the mothers of children under the age of five years in Lagos, Nigeria.

In addition, the socio-demographic traits of the respondents may be linked with the attitudes. The study reveals a significant association between the respondents' educational level (p>0.002), the employment status (p<0.052) and the parents and caregivers' attitudes towards homebased management of diarrhoea in children under the age of five years. Gender, marital status, religion, residence, age of the children and lost children had no significant association with the attitudes of the parents and caregivers. The association that may exist, may be by chance. The study has adopted the Health Believe Model that better explains the behaviors of the human beings. The HBM stated that the perceived barriers may significantly impact individuals' health seeking behaviors if not combated. Therefore, for this study there is a gap between the knowledge level, attitudes and practices of parents and caregivers on homebased management of diarrhoea that may be as a result of perceived barriers. The parents and caregivers reported that that health facilities are far, lack of convectional medicine, lack of trust regarding health care practitioners are some of the barriers that contributes to the bad

attitudes among parents and caregivers on diarrhoea management. Subsequently, parents and caregivers administer enemas to children while at home and ignore the need to seek help at the health facilities; despite their good knowledge level on homebased diarrhoea management.

Furthermore, the study found a strong significant association between the respondents' marital status ($p<0.006$), educational level ($p<0.004$), employment status ($p<0.004$) and the practices of the parents and caregivers on homebased management of diarrhoea in children under the age of five years. The other socio-demographic trait had no associations with the parents and caregivers' practices. Archange (2019) revealed that respondents' age with $p<0.002$; education level with $p<0.000$ were the sociodemographic factors associated with practice on home management of diarrhoea. A differing study conducted by Dodicho (2016) in Ethiopia, revealed that education ($p<0.000$) and residence ($p<0.000$) were found to influence the practice of the parents and caregivers. The parents and caregivers reveled that they learned diarrhoea management from their parents and friend. Despite the outstanding knowledge level on diarrhoea management, there is a continuous generational wrong practice of administering herbal enemas to children with diarrhoea. The HBM argues that when the community members perceive no harm and believe that herbal enema outweigh conventional medicine with regard to diarrhoea management; the practice will be ongoing despite its medical threats to the lives of the victimized children.

Analysis of variances [ANOVA]

ANOVA reveals a statistically significant p value of $p<0.001$ on the marital statuses and the knowledge of the parents and caregivers. This infers that the single respondents have good level of knowledge, married respondents got better level of knowledge on diarrhoea management and followed by the divorced parents and caregivers. However, the parents and caregivers under the age of eighteen years demonstrated low level of knowledge regarding homebased management of diarrhoea in children under the age of five.

Knowledge and religion have a statistical analysis of ANOVA significance value was <0.003. These affirm that Christian parents and caregivers have more frequency, which statistically convey that they got better level of knowledge than the parents and caregivers from the Islamic religion.

Knowledge and educational level have a <0.001 P value. The study found tertiary educated parents and caregivers to have good knowledge on home-based management of diarrhoea in children, while parents and caregivers who had secondary education had better knowledge on home management of diarrhoea than parents and caregivers with primary education. Subsequently, parents and caregivers with no formal education had poor level of knowledge regarding home-based management of diarrhoea.

The significance value between the ages of children variances to the knowledge scores ($P<0.001$). This showed a statistically significant differences among the group children ages and homebased management of diarrhoea in children. All in all, the younger the child, the poorer the knowledge of the parents and caregivers' management of diarrhoea. Therefore, as children grow older, the parents and caregivers learn and become better experienced with the home-based management of diarrhoea in children under the age of five years.

LIMITATIONS OF THE STUDY

This study was delimited to Intermediate hospital Rundu, Kavango East, Namibia only, therefore the results cannot be generalised beyond Rundu Health district.

The study had methodological limitation as it only employed a quatnitative data collection method. Qualitative that could uncover respondents perceptions and behaviors was not intergrated in this study.

In addition, Language barrier was a limitation for the study, as respondents spoke different languages. The researcher averted this by translating the English questionnaire into a local language, Rukwangali in order for the respondents to choose the preferred language.

Conflict of interest: The authors declare no conflict of interest.

Authours contributions: KT Nambombola had proposed, designed and wrote up the study. Dr S Uushona assisted in supervising, advising, concepts designing and critically review the article. Dr T Munangatire did the data analysis of the study. All authours have read and approved this article.

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RECOMMENDATIONS

Grounded by research findings, the succeeding recommendations were made:

1. The Ministry of Health and Social Services, Rundu district in particular should strengthen awareness programmes about diarrhoea illnesses in children and possibly provide training on home-based management that stroke with the WHO guidelines.
2. Development of posters and leaflets in English and local languages on homebased management of diarrhoea in children under the age of five years, to combat the knowledge, attitudes and practices gap of parents and caregivers.
3. All in all, the researcher recommends the future researchers to focus on the factors affecting the parents and caregivers' attitudes and practices on homebased management of diarrhoea in children under the age of five years old, using a mixed method approach, alleviate cross sectional design limitations and extend the study beyond Rundu health district.

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ETHICAL CLEARANCE CERTIFICATE

Ethical Clearance Reference Number: DEC OSH 0073 **Date:** 19/10 2023

This Ethical Clearance Certificate is issued by the University of Namibia Ethics Committee (REC) in accordance with the University of Namibia's Research Ethics Policy and Guidelines. Ethical approval is given in respect of undertakings contained in the Research Project outlined below. This Certificate is issued on the recommendations of the ethical evaluation done by the ethics committee.

Title of Project: KNOWLEDGE, ATTITUDES AND PRACTICES OF PARENTS AND CAREGIVERS ON HOME-BASED MANAGEMENT OF DIARRHOEA IN CHILDREN UNDER THE AGE OF FIVE YEARS AT INTERMEDIATE HOSPITAL RUNDU, OUTPATIENT DEPARTMENT, KAVANGO EAST REGION, NAMIBIA

Principal researcher: NAMBOMBOLA KRISTOFINA TASHIYA

Staff Number/ Student number: 201503682

Remarks: Low Risk Approved after corrections done.

Centre for Research Services

Take note of the following:

1. Any significant changes in the conditions or undertakings outlined in the approved Proposal must be communicated to the ethics committee. An application to make amendments may be necessary.
2. Any breaches of ethical undertakings or practices that have an impact on ethical conduct of the research must be reported to the ethics committee.
3. The Principal Researcher must report issues of ethical compliance to the ethics committee (through the Chairperson) at the end of the Project or as may be requested by the ethics committee.
4. The ethics committee retains the right to:
   i) Withdraw or amend this Ethical Clearance if any unethical practices (as outlined in the Research Ethics Policy) have been detected or suspected,
   ii) Request for an ethical compliance report at any point during the course of the research.

The ethics committee wishes you the best in your research.

Prof Hans J Amukugo (Oshakati Campus Chairperson Decentralized Ethics Committee)

Prof. Davis Mumbengegwi (Head, Multidisciplinary Research)