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Runyenje Wakina Cynthia

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Jomo Kenyatta University of Agriculture and Technology.

Email: sasymone@gmail.com

Abstract

Cerebral palsy is the leading cause of motor disability in children. Global incidence of cerebral palsy stands at 2 to 3 per every 1,000 births. In Kenya, World Health Organization estimates that 1 in every 300 children has Cerebral palsy, this suggesting that over 60,000 children in Kenya have cerebral palsy. The high prevalence has been attributed to mostly brain damage in newborns and infants. The impact of Hemiparetic cerebral palsy is felt not only on the individual but also the caretakers and society as a whole, making physiotherapy fundamental to the lives of persons living with cerebral palsy. Evidence-based physiotherapy practice involves a number of components that follows a step by step process and thus has been argued to be the most ethical approach to treatments in a variety of medical professionals. Measurement of outcomes in physiotherapy rehabilitation is needed to determine whether the rehabilitation methods performed are useful to the patients. Yet, there is no research that has been done to determine whether evidence-based treatment outcome measures are used as part of the rehabilitation process in Kenya, particularly in Hemiparetic cerebral palsy. The main objective of the study was to determine the utilization of evidence-based treatment outcome measures in the rehabilitation of hemiparetic cerebral palsy among physiotherapists at the Kenyatta National Hospital. The study design was descriptive cross-sectional study. It was conducted at the Kenyatta National Hospital which is the largest referral and teaching hospital. The study used semi-structured questionnaire design that included both closed-ended and a few open-ended questions. The time frame that is expected to facilitate the process of the proposal development and data collection up to the final thesis defense and dissemination is 10 months; from May 2016 to February 2017.The study was inclusive of physiotherapists working at the Kenyatta National Hospital in both the out-patient and in-patient departments who will have been sampled and passed the inclusion criteria. The data was analyzed using STATA software. The study found out that level of education and utilization of evidence based treatment are positively and significant related (r=2.759, p=0.016). The table further

indicates that CPD participation and utilization of evidence based treatment are positively and significant related (r=7.887, p=0.021). It was further established that Availability of information resources and utilization of evidence based treatment are positively and significantly related (r=5.428, p=0.007). The study recommends for Physiotherapy Council of Kenya and Ministry of Health, institutions of higher learning to emphasize on trainings of physiotherapists since training has a positive effect. Thus will lead to improved efficacy and effectiveness of the rehabilitation, increasing patient satisfaction and an eventual increase in quality of life for the patients undergoing rehabilitation.

Keywords: *Knowledge, Clinical practices, Evidence-based treatment outcome measures, Hemiparetic cerebral palsy, Physiotherapists*

1.1 Background of the Study

Cerebral palsy (CP) is the most common motor disability in children. Cerebral palsy is a group of neurological disorders that appear at infancy or early childhood that permanently affects body movement, muscle coordination and balance. Hemiparetic cerebral palsy is a type of cerebral palsy where there is weakness in one side of the body. There may be also paralysis but a mild form. The causes of CP are known to be asphyxia during birth, infant stroke, congenital heart disease, placenta or maternal infection or in some cases mother and infant blood incompatibility. Symptoms of CP include delayed milestones, problems with walking and balance while standing, keeping one hand balled in a constant fist and only using one hand when playing and extreme weakness or muscle stiffness on one side of the body. These symptoms can lead to a number of complications such as contractures, osteoarthritis, neurological conditions, lung disease, mental disorders and even malnutrition. Cerebral palsy is not a progressive condition thus persons can lead a productive life and have a normal lifespan. Unfortunately, there is no cure for CP. However, management of the condition is done through physiotherapy, splinting, bracing, sensory integration and in severe cases orthopedic surgery may be required. Prognosis can thus be improved by ensuring physiotherapy and relevant treatments are started as soon as possible and being mindful of any complications that may arise [CPS, 2016; BIG, 2016].

In Kenya, statistics show that there is an increase in the occurrence of CP in newborns and infants due to brain damage. World Health Organization (WHO) estimates that 1 in every 300 children has CP, this suggesting that over 60,000 children in Kenya have cerebral palsy [Microgrants, 2014; Cerebral Palsy Africa, 2016]. The impact of Hemiparetic cerebral palsy (HCP) is felt not only on the individual but also the caretakers and society as a whole. On the individual, it reduces quality of life as one cannot be fully independent especially where there are limitations in mobility, communication, eating and drinking, learning, hearing and vision, bowel control, pain and spine and hip abnormalities. Families and caregivers may strain psychologically due to the discrimination and misconceptions that surround cerebral palsy. Regular therapy is required leading to financial strain on the family. Centre for Disease Control and Prevention (CDC) has estimated that the lifetime cost to care for an individual with CP is close to United States dollars (USD) 1 million. The society as a whole and governments have felt the burden of the condition as an estimated USD 11.5 billion. This being spent in direct and indirect costs for combined lifetime costs for persons born with CP [CDC, 2016].

Physiotherapy is fundamental to the lives of persons living with cerebral palsy. Measurement of outcomes is needed to determine whether rehabilitation methods performed are useful to the patients. Yet, there is no research that has been done to determine whether evidence-based

treatment outcome measures are used as part of the rehabilitation process in Kenya. Therefore, the study will seek to fill this gap by establishing whether evidence-based treatment outcome measures are being used by physiotherapists at the Kenyatta National hospital in the rehabilitation of hemiparetic cerebral palsy.

1.2 Statement of the problem

Cerebral palsy is the leading cause of motor disability in children. Literature shows that there is use of standardized outcome measures by physiotherapists not only in developing countries but worldwide. However, Kenyan practitioners have to depend on treatment outcomes measures developed for other countries as there are no locally developed ones designed to specifically cater for the needs of hemiparetic cerebral palsy rehabilitation for Kenyan citizens living with HCP.

Physiotherapist often rely on intuition when it comes to evaluation of rehabilitation treatments rather than established outcomes measures. Also, patients are not involved in the process of evaluation of rehabilitation services as their opinions, values and thoughts are not put into consideration. This has led to inaccurate evaluation of the treatment methods being used leading to unnecessarily long treatment periods and in some cases prolonged pain and suffering.

There is no literature to show whether evidence-based treatment outcome measures are being utilized in hemiparetic cerebral palsy. Thus, the need to carry out the study to determine the use of evidence-based outcome measures in the rehabilitation of hemiparetic cerebral palsy by physiotherapists in Kenya.

1.3. Specific objectives

1. To determine the knowledge and clinical practices of physiotherapists in the use of evidence-based treatment outcome measures in the rehabilitation of hemiparetic cerebral palsy.
2. To establish the sources of guidelines available to inform treatment outcome measures in the rehabilitation of hemiparetic cerebral palsy by physiotherapists.
3. To determine the factors associated with the use of evidence-based treatment outcome measures by physiotherapists in the rehabilitation of hemiparetic cerebral palsy.

2.0 Literature Review

In the USA, the American Physical Therapy Association has included evidence-based practice as one of its elements for vision 2020. This ensures its continued efforts in enhancing patient management and reducing unwarranted variation in the provision of physiotherapy services [APTA, 2016].

In Europe, the Center for Evidence Based Physiotherapy (CEBP) was formed in Netherlands, as an initiative to promote use of research databases for physiotherapists. Its purpose is to search, collect and disseminate available scientific evidence in the physiotherapy domain. This is for the use by physiotherapists, health workers, patients and financiers of health care. Also in 2015, as an initiative under the European Union (EU), BRIDGE, a health project that stands for Bridging Information and Data Generation for Evidence-based Health Policy and Research, was formed. It seeks to bridge information and data for evidence-based health policy and research. This project is running in 16 European countries where it connects the best EU projects in the areas of health

data collection, health examination surveys, injury and disease registries and health system monitoring and evaluation [EWCPT, 2015; BridgeHealth, 2016].

Bobath Centre for Children with Cerebral Palsy in the UK recommends and goes further to train physiotherapists on utilizing these tools of outcome measurement. Quality Function Measure (QFM) is one of the outcome measurement tools is recommended which assesses the quality of movement in standing and walking in persons with cerebral palsy; helping physiotherapists determine the areas of motor function that require more rehabilitation to further enhance motor control. QFM is usually used simultaneously with the Gross Motor Function Measure (GMFM) that describes abilities and limitations in the gross motor functioning of children with CP on their self-initiated movements when sitting, standing, walking and in wheeled mobility. Therefore, physiotherapists are able to determine the quality of movement [Bobath Centre, 2016].

In a study conducted in Toronto, Canada, showed that most physiotherapists for many years used manual muscle testing: goniometry as their outcomes measures, to great effect. Amongst health professionals, physiotherapists leading in the use of the goniometer. [Jette et al, 2009]. Another tool that has been recommended for cerebral palsy outcome measurement is the self-reported experiences of activity in environment settings. It is administered by the physiotherapy as a self-assessment tool to determine the patients' perception on the activities they do [Bloorview Research Institute, 2016].

3.0 Research Methodology

The study design was descriptive cross-sectional study. It was conducted at the Kenyatta National Hospital which is the largest referral and teaching hospital. The study used semi-structured questionnaire design that included both closed-ended and a few open-ended questions. The time frame that is expected to facilitate the process of the proposal development and data collection up to the final thesis defense and dissemination is 10 months; from May 2016 to February 2017.The study was inclusive of physiotherapists working at the Kenyatta National Hospital in both the out-patient and in-patient departments who will have been sampled and passed the inclusion criteria. The data was analyzed using STATA software.

4.0 Results and Research Findings

4.1 Demographic characteristics of the study population

A total of 49 respondents consented and enrolled into the study, slightly over half of them (53.1%) were male and 46.9% female (χ_2 = 14.256; P = 0.000) (Table 1).The chi square results showed that gender has a significant effect on the use of evidence-based treatment outcome measures.

Majority of the respondents (28.6%) had an age bracket between 30-34years., 22.4% aged 40 to 44 years and 4.1% aged 49 to 49 years. (χ = 6.331; P = 0.275). This means that age does not have a significant effect on the use of evidence-based treatment outcome measures.

73.5% had a tertiary has their highest level of education while 26.5% had university being the highest level of education (χ_2 = 13.013; P = 0.000) (χ_2 = 1002.99; P = 0.0001).The chi square results revealed that education level have a significant effect on the use of evidence-based treatment outcome measures.

65.3% of the respondents had diploma being the highest level of education, 26.5% had Bachelors' degree while 8.2% being higher diploma ($\chi_2 = 6.397$; P = 0.014).The chi square results revealed that qualification attained have a significant effect on the use of evidence-based treatment outcome measures.

73.5% of the respondents indicated that they got trained in KMTC while 4.1% only got trained in abroad-USA ($\chi_2 = 1.488$; P = 0.475).The chi square results revealed that training institution do not have a significant effect on the use of evidence-based treatment outcome measures.

On the question on length of practice as physiotherapist, majority of the respondents (32.7%) indicated that they have practiced for between 1 and 5 years while 18.4% indicated that they have practiced for over 20 years. ($\chi_2 = 1.5304$; P = 0.015).The chi square results revealed that Length of practice as physiotherapist have a significant effect on the use of evidence-based treatment outcome measures.

Lastly, the respondents were requested to indicate on the Frequency of participation in physiotherapy. Majority of the respondents (40.8% indicated that they participate in physiotherapy every year while only 4.1% of the respondents indicated that they participated after every three months. ($\chi_2 = 23.275$; P = 0.000).The chi square results revealed that participation in physiotherapy have a significant effect on the use of evidence-based treatment outcome measures.

Table 1: Demographic characteristics of the study population

Demographic characteristics		Frequency	Percent	Chi square(χ2)	P value
Gender	Male	26	53.1		
	Female	23	46.9		
	Total	49	100	14.256	0.000
	<30yrs	9	18.4		
	30-34yrs	14	28.6		
	35-39yrs	7	14.3		
Age	40-44yrs	11	22.4		
	45-49yrs	2	4.1		
	>50yrs	6	12.2	6.331	0.275
	Tertiary	36	73.5		
Education level	University	13	26.5		
	Total	49	100	13.013	0.000
	Diploma	32	65.3		
Qualification attained	Bachelor's Degree	13	26.5		
	Higher Diploma	4	8.2		
	Total	49	100	6.397	0.014
	JKUAT	11	22.4		
Training Institution	KMTC	36	73.5		
	Abroad-USA	2	4.1		
	Total	49	100	1.488	0.475
	1-5yrs	16	32.7		
	6-10yrs	12	24.5		
Length of practice as physiotherapist	16-20yrs	12	24.5		
	>20yrs	9	18.4		

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	Total	49	100	5.304	0.015
	Every Month	3	6.1		
	Every 3 Months	2	4.1		
Frequency of participation in physiotherapy	Every 6 Months	17	34.7		
	Every Year	20	40.8		
	Never	7	14.3		
	Total	49	100	23.275	0.000

4.2 Knowledge and Clinical Practices of Physiotherapists

The first objective of the study was to determine the knowledge and clinical practices of physiotherapists in the use of evidence-based treatment outcome measures in the rehabilitation of hemiparetic cerebral palsy. The respondents were requested to indicate how many years they have held their physiotherapy license, 40.8% of the respondents indicated that they have held licence for less than 5 years, 38.8% for more than 15 years while 4.1% indicated 11-15 years ($\chi_2 = 25.909$; $P = 0.000$).The chi square results revealed that the number of years in operation have a significant effect on the use of evidence-based treatment outcome measures.

On the question on Treatment of patients with Cerebral, 42.9% of the respondents who were the majority indicated that they have treated between 2 and 3 patients, 28.6% indicated 1 patient while 12.2% indicated that they have treated 4-6 patients years ($\chi_2 = 15.308$; $P = 0.002$).The chi square results revealed that Treatment of patients with Cerebral have a significant effect on the use of evidence-based treatment outcome measures.

The respondents were further asked if they have ever engaged in diagnosis, Treatment and management outcome measures or Assessment.51% of the respondents indicated that they have never engaged in the research while 49% indicated that they have engaged in the research ($\chi_2 = 5.975$; $P = 0.015$).The chi square results revealed that engagement in research have a significant effect on the use of evidence-based treatment outcome measures.

On the question on the access on the Physiotherapy Management Guidelines for patients with cerebral palsy, 61.2% indicated that they access the Physiotherapy Management Guidelines for patients with cerebral palsy while8.2% indicated that they do not access Physiotherapy Management Guidelines for patients with cerebral palsy ($\chi_2 = 5.742$; $P = 0.029$).The chi square results revealed that access to guideline have a significant effect on the use of evidence-based treatment outcome measures.

The respondents were further requested to indicate the number of times they have attended professional meeting.57.1% indicated that they attend professional meeting on yearly basis, while only 6.1% indicated never attended any professional meeting ($\chi_2 = 13.813$; $P = 0.003$).The chi square results revealed that attendance of professional meetings have a significant effect on the use of evidence-based treatment outcome measures.

Lastly, they were requested to indicate if they ever attended any Refresher course. 79.6% of the respondents who were the majority indicated that they have ever attended while only 20.4% indicated that they have not attended any refresher course ($\chi_2 = 0.608$; $P = 0.343$).The chi square results revealed that attendance to short/refresher course do not have a significant effect on the use of evidence-based treatment outcome measures.

Table 2: Knowledge and practice indicators

Sub variables	Categories	Frequency	Percent	Chi square (χ^2)	P value
Physiotherapy licence	<5yrs	20	40.8		
	5-10yrs	8	16.3		
	11-15yrs	2	4.1		
	>15yrs	19	38.8		
	Total	49	100	25.909	0.000
Treatment of patients with Cerebral	1 patient	14	28.6		
	2-3 patients	21	42.9		
	4-6 patients	6	12.2		
	>10 patients	8	16.3		
	Total	49	100	15.308	0.002
Research engagement	Yes	24	49		
	No	25	51		
	Total	49	100	5.975	0.015
Access to guideline	Yes	30	61.2		
	No	4	8.2		
	Total	34	69.4	5.742	0.029
Professional meeting attendance	Monthly	10	20.4		
	Quaterly	8	16.3		
	Yearly	28	57.1		
	Never	3	6.1		
	Total	49	100	13.813	0.003
Refresher course attendance	Yes	39	79.6		
	No	10	20.4		
	Total	49	100	0.608	0.343

Further, the respondents were requested to indicate by ticking in the box, if their knowledge on the following is either very good, good, average, poor or very poor.46.9% of the respondents indicated that they have a good knowledge on how to use evidenced-based research tools such as journal, Books, internet etc. 38.8% indicated that they have a good knowledge on how to carry out evidence- based practice research and also another 38% indicated that they have a good knowledge on How to access to information databases such as e.g. Medline, Pedro and professional journals.49% indicated that they have a good knowledge on how to use computer skills to carry out research, 36.7% indicated that they have a good knowledge on how to critically appraising the literature from research, 57.1% revealed that they have a good knowledge in generalizing literature findings to patients and lastly 40.8% have a good knowledge on how to apply research findings to individual patients with unique characteristics.

On a five point scale, the average mean of the responses was 2.34 which mean that majority of the respondents were responding that they have a good knowledge in all the stated practices; however the answers were varied as shown by a standard deviation of 1.09.

Table 3: Knowledge and practice- Descriptive Statistics

What would you say is your knowledge on:	Very good	Good	Average	Poor	Very poor	Mean	Std. Dev
How to use evidenced-based research tools such as journal, Books, internet etc.?	22.40%	46.90%	26.50%	0.00%	4.10%	2.16	0.92
How to carry out evidence-based practice research	12.20%	38.80%	26.50%	12.20%	10.20%	2.69	1.16
How to access to information databases such as e.g. Medline, Pedro and professional journals.	22.40%	38.80%	16.30%	0.00%	22.40%	2.61	1.44
How to use computer skills to carry out research	28.60%	49.00%	16.30%	0.00%	6.10%	2.06	1.01
How to critically appraising the literature from research	14.30%	36.70%	34.70%	4.10%	10.20%	2.59	1.12
How to generalize literature findings to patients	20.40%	57.10%	12.20%	10.20%	0.00%	2.12	0.86
How to apply research findings to individual patients with unique characteristics	32.70%	40.80%	6.10%	18.40%	2.00%	2.16	1.14
Average						**2.34**	**1.09**

4.3 Sources of Guidelines available to inform Treatment Outcome Measures

The second objective of the study was to establish the sources of guidelines available to inform treatment outcome measures in the rehabilitation of hemiparetic cerebral palsy by physiotherapists. The respondents were asked to indicate the outcome measurement tools they use in the rehabilitation of patients with hemiparetic cerebral palsy.81.6% indicated that they use braiden tool while 18.1% indicated that they did not $(\chi_2 = 7.687; P = 0.008)$.The chi square results revealed that use of braiden scale have a significant effect on the use of evidence-based treatment outcome measures.55.1% indicated that they did not use Community Balance and Mobility Scale while 49% indicated that they did use $(\chi_2 = 18.592; P = 0.000)$.The chi square results revealed that use of $(\chi_2 = 7.687; P = 0.008)$.The chi square results revealed that use of Community Balance and Mobility Scale have a significant effect on the use of evidence-based treatment outcome measures.

61.2% of the respondents who were also the majority indicated that they use Quality Function Measure while 19% indicated that they did not. $(\chi_2 = 15.18; P = 0.025)$. The chi square results revealed that use of Quality Function Measure have a significant effect on the use of evidence-based treatment outcome measures. Further, the results showed that 49% of the respondents indicated that they use Self-reported Experience of Activity Settings while 51% who were the majority indicated that they did not.$(\chi_2 = 16.831; P = 0.000)$. The chi square results revealed that use of Self-reported Experience of Activity Settings have a significant effect on the use of evidence-based treatment outcome measures.

Table 4: Sources of Guidelines indicators

Sources of Guidelines		Frequency	Percent	Chi square (χ2)	p-value
Braiden scale	Yes	9	18.4		
	No	40	81.6		
	Total	49	100	7.687	0.008
Community Balance and Mobility Scale	Yes	22	44.9		
	No	27	55.1		
	Total	49	100	18.592	0.000
Five Times Sit to Stand Test	Yes	11	22.4		
	No	38	77.6		
	Total	49	100	0.126	0.492
Quality Function Measure	Yes	30	61.2		
	No	19	38.8		
	Total	49	100	15.18	0.025
Gross Motor Function Measure	Yes	38	77.6		
	No	10	20.4		
	Total	48	98	0.485	0.376
Quality of Upper Extremity Skills Test	Yes	29	59.2		
	No	20	40.8		
	Total	49	100	1.637	0.163
Manual Scale testing e.g. Goniometry	Yes	25	51		
	No	24	49		
	Total	49	100	0.49	0.341
Self-reported Experience of Activity Settings	Yes	24	49		
	No	25	51		
	Total	49	100	16.831	0.000

Further, the respondents were requested to indicate by ticking in the box, if they agree or disagree on the statements in table 4.6.38.8% of the respondents agreed that they know much about outcome measures in rehabilitation of hemiparetic cerebral palsy. 42.9% agreed that they outcome measures fit in with my daily practice routine.38.8% indicated that they there is a need for extra accommodation to apply outcome measures.42.9% disagreed that they have problems with changing routines. 38.8% disagreed that they have a general reluctance to adhere to guidelines, 46.9% strongly agreed that they have a positive attitude towards the use of outcome measures for hemiparetic cerebral palsy. 61.2% agreed that Outcome measures leave enough room for individual patients' preferences.

49% of the respondents agreed that outcome measures give patients' insight into their physical functioning.30.6% disagreed that there is a risk that the use of outcome measures will be abused for disciplinary action against physiotherapists. 30.6% disagreed that the use of outcome measures in rehabilitation of cerebral palsy requires financial compensation while another 30.6% of the respondents agreed that outcome measures allow me to make a balanced clinical assessment. Lastly, 38.8% agreed that the layout of measurement part of clinical practice guideline makes it easy to use

On a five point scale, the average mean of the responses was 2.44 which mean that majority of the respondents were agreeing to most of the statements; however the answers were varied as shown by a standard deviation of 0.90.

Table 5: Descriptive Statistics

Statements	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Mean	Std. Dev
I know much about outcome measures in rehabilitation of hemiparetic cerebral palsy.	18.40%	38.80%	34.70%	4.10%	4.10%	2.37	0.97
Outcome measures fit in with my daily practice routine.	8.20%	42.90%	24.50%	20.40%	4.10%	2.69	1.03
There is a need for extra accommodation to apply outcome measures.	38.80%	38.80%	14.30%	8.20%	0.00%	1.92	0.93
I have problems with changing routines.	4.10%	4.10%	36.70%	42.90%	12.20%	3.55	0.91
I have a general reluctance to adhere to guidelines.	0.00%	12.20%	38.80%	38.80%	10.20%	3.47	0.84
I have a positive attitude towards the use of outcome measures for hemiparetic cerebral palsy.	46.90%	36.70%	16.30%	0.00%	0.00%	1.69	0.74
Outcome measures leave enough room for individual patients' preferences.	26.50%	61.20%	12.20%	0.00%	0.00%	1.86	0.61
Outcome measures give patients' insight into their physical functioning.	38.80%	49.00%	12.20%	0.00%	0.00%	1.73	0.67
	16.30%	14.30%	30.60%	30.60%	8.20%	3.00	1.21
The use of outcome measures in rehabilitation of cerebral palsy requires financial compensation.	14.30%	22.40%	14.30%	30.60%	18.40%	3.16	1.36
Outcome measures allow me to make a balanced clinical assessment.	30.60%	51.00%	14.30%	4.10%	0.00%	1.92	0.79
The layout of measurement part of clinical practice guideline makes it easy to use.	34.70%	38.80%	26.50%	0.00%	0.00%	1.92	0.79
Average						**2.44**	**0.90**

4.4 Factors Associated with the use of Evidence-based Treatment Outcome Measures

The third objective of the study was to determine the factors associated with the use of evidence-based treatment outcome measures by physiotherapists in the rehabilitation of hemiparetic cerebral palsy. Majority of the respondents (87.8%) indicated that Training from what was taught in college/university on EBP was one of the factors associated with the use of evidence-based treatment outcome measures by physiotherapists in the rehabilitation of hemiparetic cerebral palsy, while

only 12.2% did not agree ($\chi_2 = 15.614$; P = 0.000). The chi square results revealed that Training from what was taught in college/university on EBP has a significant effect on the use of evidence-based treatment outcome measures.

Majority of the respondents (93.9%) indicated that Experience of treatments effects on prior patients was one of the factors associated with the use of evidence-based treatment outcome measures by physiotherapists in the rehabilitation of hemiparetic cerebral palsy, while only 6.1% did not agree ($\chi_2 = 46.34$; P = 0.062). The chi square results revealed that Training from what was taught in college/university on EBP has no significant effect on the use of evidence-based treatment outcome measures.

91.8% of the respondents indicated that Information gained from practice-related courses was one of the factors associated with the use of evidence-based treatment outcome measures by physiotherapists in the rehabilitation of hemiparetic cerebral palsy while 8.2% did not ($\chi_2 = 6.316$; P = 0.023). The chi square results revealed that Information gained from practice-related courses has a significant effect on the use of evidence-based treatment outcome measures.55.1% of the respondents indicated that Access to internet at the facility was one of the factors associated with the use of evidence-based treatment outcome measures by physiotherapists in the rehabilitation of hemiparetic cerebral palsy while 44.9% did not ($\chi_2 = 13.878$; P = 0.000). The chi square results revealed that Access to internet at the facility has a significant effect on the use of evidence-based treatment outcome measures.

59.2% of the respondents rejected that ability to access to relevant databases e.g. Medline, Pedro as a factor associated with the use of evidence-based treatment outcome measures by physiotherapists in the rehabilitation of hemiparetic cerebral palsy while 40.8 agreed ($\chi_2 = 72.09$; P = 0.008). The chi square results revealed that ability to access to relevant databases has a significant effect on the use of evidence-based treatment outcome measures.

Majority of the respondents 83.7%) indicated that interest in research was one of the factors associated with the use of evidence-based treatment outcome measures by physiotherapists in the rehabilitation of hemiparetic cerebral palsy, while only 16.3% did not agree ($\chi_2 = 14.07$; P = 0.000). The chi square results revealed that interest in research has a significant effect on the use of evidence-based treatment outcome measures.

Table 6: Factors Associated with the use of Evidence-based Treatment Outcome Measures

Factors		Frequency	Percent	Chi square ($\chi2$)	p-value
Training from what was taught in college/university on EBP	Yes	43	87.8		
	No	6	12.2		
	Total	49	100	15.614	0.000
Experience of treatments effects on prior patients	Yes	46	93.9		
	No	3	6.1		
	Total	49	100	4.634	0.062
Information gained from practice-related courses	Yes	45	91.8		
	No	4	8.2		
	Total	49	100	6.316	0.023
Enough time to research	Yes	19	38.8		
	No	30	61.2		
	Total	49	100	0.021	0.559
Access to internet at the facility	Yes	27	55.1		
	No	22	44.9		
	Total	49	100	13.878	0.000
Ability to access to relevant databases e.g. Medline, Pedro	Yes	20	40.8		
	No	29	59.2		
	Total	49	100	72.09	0.008
Adequate skills to carry out evidence- based practice research	Yes	28	57.1		
	No	21	42.9		
	Total	49	100	2.814	0.080
Support among colleagues and management through a conducive working environment and regular Continuous Medical Education (CME	Yes	25	51		
	No	24	49		
	Total	49	100	1.09	0.226
Interest in research	Yes	41	83.7		
	No	8	16.3		
	Total	49	100	14.07	0.000

4.5 Barriers encountered in the use of Evidence-based Physiotherapy (EBP)

The respondents were requested to indicate the barriers they encounter in the use of Evidence-based Physiotherapy (EBP) in the cerebral palsy treatment outcome measures in your clinical practice.61.2% of the respondents indicated insufficient time as one of the barriers, 46.9% indicated lack skills on how to carry out evidence- based practice research, 32% indicated that Lack of access to information resources and databases such as e.g. Medline, Pedro and professional journals is one of the barriers, 14.3% indicated Lack of the required computer skills to carry out research.

Further, 51% of the respondents indicated lack of access to internet at the work place to carry out research as one of the barriers, 59.2% revealed that Lack relevant research to answer clinical questions is another barrier, Inability to critically appraise the literature from research(57.2%), Lack relevant research to answer clinical questions(59.2%), Lack of generalizability of the literature findings to my patient population(36.7%), Inability to apply research findings to individual patients with unique characteristics(61.2%), Lack of conducive working environment from colleagues and management to practice evidence-based physiotherapy(55.%) while 18.4% of the respondents indicated that Lack of interest is one of the barriers they encounter in the use of Evidence-based Physiotherapy (EBP) in the cerebral palsy treatment outcome measures in your clinical practice.

Table 7: Barriers encountered in the use of Evidence-based Physiotherapy (EBP)

Barriers		Frequency	Percent
Insufficient time	Yes	30	61.2
	No	19	38.8
	Total	49	100
Lack skills on how to carry out evidence- based practice research	Yes	23	46.9
	No	26	53.1
	Total	49	100
Lack of access to information resources and databases such as e.g. Medline, Pedro and professional journals	Yes	32	65.3
	No	17	34.7
	Total	49	100
Lack of the required computer skills to carry out research	Yes	7	14.3
	No	42	85.7
	Total	49	100
Lack of access to internet at the work place to carry out research	Yes	25	51
	No	24	49
	Total	49	100
Inability to critically appraise the literature from research	Yes	28	57.1
	No	21	42.9
	Total	49	100
Lack relevant research to answer clinical questions	Yes	29	59.2
	No	20	40.8
	Total	49	100
Lack of generalizability of the literature findings to my patient population	Yes	18	36.7
	No	31	63.3
	Total	49	100
Inability to apply research findings to individual patients with unique characteristics	Yes	30	61.2
	No	19	38.8
	Total	49	100
Lack of conducive working environment from colleagues and management to practice evidence-based physiotherapy	Yes	27	55.1
	No	22	44.9
	Total	49	100

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	Yes	9	18.4
Lack of interest	No	40	81.6
	Total	49	100

4.6 Multivariate Logistic Regression Model

The variables that were significant in the cross tabulation stage were further estimated using multivariate logistic regression model. The results presented in table 8 present the fitness of model used of the regression model in explaining the study phenomena. The variables in the model were found to be satisfactory variables in explaining the utilization of evidence based treatment This is supported by coefficient of determination also known as the Pseudo R square of 71.27%. This results further means that the model applied to link the relationship of the variables was satisfactory.

In statistics significance testing the p-value indicates the level of relation of the independent variable to the dependent variable. If the significance number found is less than the critical value also known as the probability value (p) which is statistically set at 0.05, then the conclusion would be that the model is significant in explaining the relationship; else the model would be regarded as non-significant. Table 8 provides the results on the analysis of the variance (ANOVA). The results indicate that the overall model was statistically significant. Further, the results imply that the independent variables are good predictors. This was supported by an F statistic (LR (8)) of 47.23and the reported p value (0.000) which was less than the conventional probability of 0.05significance level.

Logistic regression of coefficients results in table 8 shows that level of education and utilization of evidence based treatment are positively and significant related (r=2.759, p=0.016). The table further indicates that CPD participation and utilization of evidence based treatment are positively and significant related (r=7.887, p=0.021). It was further established that Availability of information resources and utilization of evidence based treatment are positively and significantly related (r=5.428, p=0.007).

Table 8: Multivariate Logistic Regression

Utilization of evidence based treatment	Coefficient	Std Err.	z	P>|z|	[95%	Conf Interval
Gender	-2.109420	1.568175	-1.350	0.179	-5.183	0.964
Level of Education	2.759418	1.947615	1.420	**0.016**	-1.058	6.577
Professional Qualification	0.032243	0.751166	0.040	0.966	-1.440	1.505
Length of Practice	1.350940	0.839309	1.610	0.107	-0.294	2.996
CPD participation	7.887078	3.425168	2.300	**0.021**	1.174	14.600
Availability of information resources	5.428434	3.093909	1.750	**0.007**	-0.636	11.492
Access to internet at home	0.495330	1.471691	0.340	0.736	-2.389	3.380
Engagement in research	1.900493	1.947738	-0.980	0.329	-5.718	1.917
_cons	-52.051490	22.57286	-2.310	**0.021**	-96.293	-7.809

Number of observations	=49
LR chi(8)	=47.23
Prob>chi2	=0.000
Pseudo R	=0.7127

5.0 Conclusions

Based on the multivariate logistic regression model, the study concluded that that level of education and utilization of evidence based treatment are positively and significant related. CPD participation and utilization of evidence based treatment are positively and significant related Availability of information resources and utilization of evidence based treatment are positively and significantly related.

The study also concluded that many outcomes measurement tools have been developed for the use by physiotherapists on their patients with various conditions. A number of tools for measuring outcomes of rehabilitation of cerebral palsy has been recommended. These include braiden tool, Community Balance and Mobility Scale, Quality Function Measure and Self-reported Experience of Activity Settings in the rehabilitation of patients with hemiparetic cerebral palsy.

Lastly, the study concluded that training from what was taught in college/university on EBP was one of the factors associated with the use of evidence-based treatment outcome measures by physiotherapists in the rehabilitation of hemiparetic cerebral palsy. Other factors include; Experience of treatments effects on prior patients, Information gained from practice-related courses, Access to internet at the facility and interest in research.

6.0 Recommendations

Based on the findings and conclusions above, the study recommends for Physiotherapy Council of Kenya and Ministry of Health, institutions of higher learning to emphasize on trainings of physiotherapists since training has a positive effect. Thus will lead to improved efficacy and effectiveness of the rehabilitation, increasing patient satisfaction and an eventual increase in quality of life for the patients undergoing rehabilitation.

Further, the study recommends for Physiotherapy Council of Kenya and Ministry of Health to ensure that they emphasize the use of braiden tool, Community Balance and Mobility Scale, Quality Function Measure and Self-reported Experience of Activity Settings in the rehabilitation of patients with hemiparetic cerebral palsy since the tools were found to have a positive effect on improving the efficacy and effectiveness of the rehabilitation.

Lastly, the study recommends for a continued hiring of highly educated individuals in the field of physiotherapy since the level of education and utilization of evidence based treatment were found to be positively and significant related. Further, the study recommends CPD participation among the physiotherapists. This will lead to improved efficacy and effectiveness of the rehabilitation, increasing patient satisfaction and an eventual increase in quality of life for the patients undergoing rehabilitation.

7.0 References

Centre for Disease Control and prevention (CDC). (2016). *Data and Statistics for cerebral palsy: Prevalence and characteristics.* Retrieved from: http://www.cdc.gov/ncbddd/cp/data.html

Harwood, J. and White, A. (2013). *Using outcome measures in the clinic.* Physiotherapy Alliance. Retrieved from: http://physiotherapyalliance.com/wp-content/uploads/2013/07/Outcome-Measure-Table-Jennifer-and-Andrew.pdf

Jette, D., Halbert, J., Iverson, C., Miceli, E. and Shah, P. (2009). *Use of Standardized Outcome Measures in Physical Therapist Practice: Perceptions and Applications.* Journal of the American Physical Therapy Association, Volume 89, issue 2. Retrieved from: http://ptjournal.apta.org/content/89/2/125 +

Jette, D.U., & Bacon, K., & Batty, C., & Carlson, M., & Ferland, A., & Hemingway, R.D., & Hill, J.C., & Ogilvie, L., & Volk, D. (2003, September). *Evidence-Based Practice: Beliefs, Attitudes, Knowledge, and Behaviors of Physical Therapists.* Journal of the American Physical Therapy Association, volume 83, issue 9. Retrieved from: http://ptjournal.apta.org/content/83/9/786.full

McLaren, D. (2016). *How can we strengthen Primary Health Care for children with Cerebral Palsy in rural areas of South Africa?* DG Murray Trust. Retrieved from: http://dgmt.co.za/files/2014/06/LB-55-J-A-2014-final-0206.pdf

Schiariti, V., klassen, A., Cieza, A., Sauve, K., O'Donnell, M., Armstrong, R. and Masse, L. (2014). *Comparing contents of outcome measures in cerebral palsy using the international classification of functioning (ICF-CY): A systematic review.* European Journal of Pediatric Neurology, volume 18, issue 1, page 1-12. Retrieved from: http://www.ejpn-journal.com/article/S1090-3798(13)00129-3/abstract

Wippermann, J. (2013). *The Quality of Life of Families of Children with Cerebral Palsy.* West Virginia, United states of America. Retrieved from: http://digitalcommons.liberty.edu/cgi/viewcontent.cgi?article=1387&context=honors