EXPLORATION OF ADOPTION OF HEALTH LIFESTYLE FOR SECONDARY PREVENTION OF NON COMMUNICABLE DISEASES (STROKE, DIABETES AND HYPERTENSION) AMONG CLIENTS AT MZUZU CENTRAL HOSPITAL MALAWI, 2013

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Abstract

Background: Noncommunicable diseases (NCDs) kill more than 36 million people each year. Nearly 80% of NCD death (29 million) occurs in low and middle income countries (WHO, 2010). In Malawi, NCDs account for at least 12% of total Disability Adjusted Life Years (WHO 2010) . **Objective:** The main objective was to explore adoption of healthy lifestyle for secondary prevention of stroke, diabetes and hypertension among clients receiving treatment at Mzuzu Central Hospital. **Methods:** A cross sectional analytical study design was used. Sixty three participants aged 18 years and above were selected using a purposive sampling technique, who had all, or two or one of the following NCDs; stroke, diabetes or hypertension, and receiving treatment at Mzuzu Central Hospital participated in the study. An interviewer administered questionnaires was used to collect data. **Findings:** The majority were females (74.6%; 47/63), and the median age of the participants was 60 years (Q1=51; Q3=65). Although most participants failed to define stroke, diabetes and hypertension (88.9%), failed to mention the recommended healthy lifestyle (65.1%) as regards its prevention and also failed to mention complications of NCDs (85.7%), the majority (85.7%) indicated to have received health education on NCDs. Furthermore, the findings revealed that 71.4% did not perceive to be at risk of developing complications from their diagnosed condition despite the given health education. Participant consumed fewer servings of fruits and vegetables per

day, and did not practice healthy lifestyle in general. **Conclusion:** Health education need to comprehensively cover interventions for prevention of NCDs. Besides that, reinforcement of acquired knowledge on NCDs among client should be emphasized so as to increase the chances to adopt and practice healthy lifestyle.

Keywords: Adoption, healthy lifestyle, secondary prevention, Non-communicable diseases

Introduction

Non-communicable diseases (NCD) are usually thought of as chronic conditions that do not result from an acute infectious process. These conditions cause death, dysfunction, or impairment in the quality of life, and they usually develop over relatively long period of time, first without causing symptoms; but after disease manifestations develop, there may be a protracted period of impaired health (WHO, 2011). Globally, 63% of people who died in 2008 were due to NCDs. Without action, the NCD epidemic is projected to kill 52 million people annually by 2030. (WHO, 2011).

There are four main unhealthy lifestyle choices which significantly increase the risk of NCDs - the use of tobacco, excessive alcohol intake, unhealthy diet and physical inactivity. By avoiding these behaviors, individuals can radically reduce their risk of developing NCDs, its associated disability and deaths that ensue from heart disease, strokes, diabetes, cancers and chronic respiratory disease (WHO, 2002). Sub Saharan Africa (SSA) is facing a double blow of both communicable and non communicable diseases. While HIV/AIDS, tuberculosis (TB) and malaria remain the common cause of morbidity and mortality, non-communicable diseases (NCDs) are increasingly becoming a significant public health problem (Bainngana, 2006). The Global Burden of Disease Study conducted in 2001 showed that 20% of deaths in SSA were due to NCDs (Lopez, 2006), and this burden is predicted to rise to 40% by 2020 (Murray et al. 1996). It is estimated that in Malawi, non-communicable diseases account for at least 12% of total Disability Adjusted Life Years (DALYs) (WHO 2009). NCDs are fourth cause of all DALYs after HIV&AIDS, other infections and parasitic diseases and respiratory diseases (WHO 2009). Non-communicable diseases are the second leading cause of deaths in adults after HIV&AIDS. World Health Survey- Malawi study conducted in 2003 estimated that 15% of adults smoke tobacco, 22% take alcohol and about 40% do not take sufficient fruits and or vegetables (WHO 2003). These are the well known risk factors for non-communicable diseases. In Malawi, stroke is the 6th biggest killer (after infectious diseases) and a significant cause of disability (WHO 2010).

Research problem statement

Much as health education is being given to patients/clients as a secondary prevention of NCDs, Malawi is still registering high number of complications such as recurrence, disabilities and death arising from NCDs. It is estimated that in Malawi, non-communicable diseases account for at least 12% of total Disability Adjusted Life Years (DALYs) (WHO 2009). Stroke in particular is the 6th biggest killer (after infectious diseases) and a significant cause of disability (WHO, 2010). Currently, little is known as regards adoption of health behaviors/lifestyle following health education information that is being given to the patients as secondary prevention of stroke, hypertension and diabetes.

This study was therefore set out to explore adoption of healthy lifestyle for secondary prevention of stroke, diabetes and hypertension among clients aged 18 years and above. Specific objectives of the study were; to identify knowledge of participants on NCDs (stroke, diabetes and hypertension); to establish the perceived risk of developing NCDs (stroke, diabetes and hypertension); To establish the influence of health education on adoption of healthy lifestyle; To establish the association of perceived risk of developing complication from NCDs and living a healthy lifestyle.

Methods and Materials

A cross sectional analytical study design was used. Sixty three participants aged 18 years and above, who had all or two or one of the following NCDs; stroke, diabetes or hypertension, and receiving treatment at Mzuzu Central Hospital were requested to participate in the study using a purposive sampling technique. An interviewer administered questionnaires was used to collect relevant information for a period of one month at Mzuzu Central Hospital. Epi info version 3.5.1 was used to analyze descriptive data while qualitative data was analyzed by considering common themes, thereafter triangulation of both qualitative and quantitative data was done.

Findings

Demographic

The sample size of the study was 63 with the majority being females (74.6%; 47/63) and males were 25.4% (16/63). Most of the participants (57.1%; 36/63) were married, 1.6%(1/63) were divorced, 1.6% (1/63) were single, and 39.7%(25/63) were widowed. Only 25.4%(16/63) of the participants lived in the rural areas and the rest lived in the urban areas. The majority of the participants (52.4%; 33/63) went up to primary education, and 7.9% (5/63) never attained any level of education. Most of the participants (55.6%; 35/63) were unemployed followed by the retired group (28.6%; 18/63). The majority (39.7%; 25/63) were in the low earnings categories. The median age of the participants was 60 years (Q1=51;

Q3=65), and the median duration of the period they had suffered from their diagnosed condition was 8 years (Q1=1; Q3=12). Of the 63 participants, 90.5% were diagnosed with hypertension, followed by diabetes and clients with stroke were the least with 6.3%. See table 1 below for demographic data.

Table 1: Socio-demographic data

Characteristic	Males, n=16 (25.4%)	Females, n=47 (74.6%)	Total, n=63 (100%)
MARITAL STATUS			
Divorced	0(0.0)	1(2.1)	1(1.6)
Married	15(93.8)	21(44.7)	36(57.1)
Single	0(0.0)	1(2.1)	1(1.6)
Widowed	1(6.3)	24(51.1)	25(39.7)
RESIDENTIAL AREA			
Rural	3(18.8)	13(27.7)	16(25.4)
Urban-high density	8(50.0)	17(36.2)	25(39.7)
Urban-medium density	3(18.8)	11(23.4)	14(22.2)
Urban-low density	2(12.5)	6(12.8)	8(12.7)
LEVEL OF EDUCATION			
None	1(6.3)	4(8.5)	5(7.9)
Primary	2(12.5)	31(66.0)	33(52.4)
Secondary	9(56.3)	7(14.9)	16(25.4)
Tertiary	4(25.0)	5(10.6)	9(14.3)
OCCUPATION			
Unemployed	2(12.5)	33(70.2)	35(55.6)
Self employed	1(6.3)	3(6.4)	4(6.3)
Formal employment	3(18.8)	3(6.4)	6(9.2)
Retired	10(62.5)	8(17.0)	18(28.6)
AVERAGE EARNINGS			
None	1(6.3)	5(10.6)	6(9.5)
Low	4(25.0)	21(44.7)	25(39.7)
Medium	7(43.8)	15(31.9)	22(34.9)
High	4(25.0)	6(12.8)	10(15.9)
AGE-MEDIAN	*61 years (Q1=58; Q3=66)*	60 years (Q1=51; Q3=64)	60 years (Q1=51; Q3=65)
DURATION OF ILLNESS MEDIAN	3 years (Q1=2; Q3=8)	8 years (Q1=2; Q3=13)	8 years (Q1=2; Q3=12)

Knowledge

On the knowledge about definitions of stroke, diabetes and hypertension, the majority 88.9% (56/63) were not knowledgeable, the same pattern was found on knowledge about healthy lifestyle as regards prevention of the three conditions 65.1% (41/63). Besides that, participants were not able to mention the complications of stroke, diabetes and hypertension 85.7%(54/63) were not knowledgeable respectively. These results agree with study done by Bradley et al, 2007, in which the findings from the situational assessment indicated a lack of knowledge among people in the community about hypertension and diabetes and the risk factors for these non-communicable diseases. In this study, despite the majority of the participants (85.7%: 54/63) indicating that they were given health education on NCDs and especially on their condition, their level of knowledge on NCDs was very low.

The researcher also tried to establish the association between exposure to health education and the level of knowledge of the participant. It was found that those who had been given health education on NCDs, were 6 times more likely to be knowledgeable on recommendations of healthy life style than those who did not. (OR=2.06; 95% CI=0.39-10.89; P-value=0.323). However, the results was not statistically significant since the P-value (0.323) > 0.05.

Generally, the participants displayed less knowledge with regards to NCDs, in terms of definitions, recommended healthy lifestyle and complications. These findings are in line with a study done by Mohammed in 2005 in Oman, in which the study concluded that their knowledge about stroke risk factors was poor, and besides that, the subjects in the study were largely unaware of their increased risk for stroke. Furthermore, a study done by Gregory et al in 1997 on Knowledge of Risk Among Patients at Increased Risk for Stroke also strongly agrees with these findings in the sense that their result revealed that only 41% of the respondents were aware of their risk for stroke (including less than one half of patients with previous minor stroke).

Risk perception

Results revealed that 95.2% (60/63) did not think that they would ever suffer from the condition they had (table 2), and the majority of the participants (71.4%; 45/63) did not perceive themselves to be at risk of developing complications from the condition they were suffering from (table 3). These findings are in agreement with a study done in Oman in 2005 by Mohammed, on Perception of stroke and knowledge of potential risk factors, in which the majority (62%) did not believe they were at increased risk of stroke.

Table 2: Risk perception

Ever thought would suffer from the current condition	Frequency	Percent
Yes	3	4.8%
No	60	95.2%
Total	63	100.0%

Table 3: Risk of developing recurrence, disability or death

15. How would you rate your risk of developing recurrence, disability or death from stroke, high blood pressure, stroke, heart attack?	Frequency	Percent
High risk	11	17.5%
Low risk	7	11.1%
No risk	45	71.4%
Total	63	100.0%

Life style

In this study, several lifestyles in relation to NCDs and healthy lifestyle were explored to see whether participants were practicing or had adopted them following their diagnosis and health education given upon their diagnosis. The results revealed that participants were inconsistent in practicing healthy lifestyle. For instance, they ate less fruits, less vegetables, less physical activity, and practiced sedentary behaviour. (See table 4; activity). However, most participants did not consume alcohol and had stopped tobacco use. These results are consistent with the findings of a study done by Echouffo-Tcheugui. J. B & Kengne. A.P, 201, in which the rising trends in NCDs in Cameroon had been documented for hypertension and diabetes, with a 2-5 and a 10-fold increase in their respective prevalence between 1994 and 2003. These changes largely resulted from the adoption of unfavorable eating habits, physical inactivity, and a probable increasing tobacco use.

Table 4: RECREATIONAL ACTIVITIES

Characteristic	Males, n=16 (25.4%)	Females, n=47 (74.6%)	Total, n=65 (100%)
MODERATE SPORTS			
Yes	3(18.8)	4(8.5)	7(11.1)
No	13(81.3)	43(91.5)	56(88.9)
VIGOROUS SPORTS			
Yes	1(6.3)	3(6.4)	4(6.3)
No	15(93.8)	44(93.6)	59(93.7)

Influence of health education on adoption of healthy lifestyle

Strong association was established between health education and participant's opinion that they were practicing/living a healthy life style, with OR10.0; 95% CI 2.09-47.82; P-value 0.006. This meant that those who received health education were 10 times more likely to mention that they lived a healthy lifestyle than those who did not receive health education (table 5 below). A very similar association was established when linear regression was used. The regression revealed that with a change in health education status from no health education to health education increased the chance of the participants to mention that they practiced healthy life style by 0.500 with a p-value of 0.001 making the results to be statistically significant. (table 6 below)

Table 5: Summary of the influence of health education on adoption of healthy lifestyle (client's opinion)

Variable	OR	95% CI	P-value
Can manage to live healthy lifestyle (client's opinion)	10.00	2.09-47.82	0.006
Practicing healthy Lifestyle (client's opinion)	21.25	3.67-123.06	0.001

Table 6: Linear relationship between health education and practicing healthy lifestyle (client's opinion)

Linear Regression

Variable	Coefficient	Std Error	F-test	P-Value
Received health education (Yes/No)	0.500	0.104	23.2700	0.000010
CONSTANT	0.444	0.096	21.4505	0.000020

Correlation Coefficient: r^2= 0.28

Association was established between risk perception of developing complications and practicing/living healthy lifestyles. However, none of the lifestyles was statistically significantly associated with perception of developing complications.

Study limitations

Most of the questions required self reporting by the participants and giving their opinion, hence there could be high possibility that they gave responses that were socially acceptable and expected by health workers.

This study being a cross-sectional analytical study, it was difficult to establish the cause and effect. (causal factors).

Conclusion

The study found that most participants were not consistent in practicing healthy lifestyle. For example, even if they were doing exercise, they did not do it frequently or did for a few minutes. Not enough servings of fruits and vegetables were consumed by those who indicated that they were eating them. It was also revealed that participants had low level of knowledge as regards NCDs, despite the majority indicating that they received health education on NCDs and especially on the condition they were diagnosed with. Participants indicated that they were practicing healthy life style and talked highly about healthy lifestyle being beneficial and not difficult to practice, from their personal view point. Contrary to their opinion, the study revealed that knowledge and actual practice was deficient.

There is need therefore to have realistic plan to address the current inappropriate health education on NCDs to improve the knowledge of people and put in place healthy lifestyle behaviour reinforcement.

Recommendations

Need to design comprehensive package for health education on NCDs.

There is need to conduct health education/awareness campaigns on NCDs.

Establish support groups on healthy lifestyle as a means of reinforcing the knowledge and practice/adoption.

Establish more recreational centers where people can go and engage in sporting/physical activities.

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