British Journal of Medicine & Medical Research
10(4): 1-11, 2015, Article no.BJMMR.19162
ISSN: 2231-0614

SCIENCEDOMAIN *international*
www.sciencedomain.org

Knowledge, Attitude and Practice of Doctors and Nurses towards Health Education Activities and Life Style Changes in Khartoum Teaching Hospital Khartoum Sudan

Monica Michel Fahim Salama[1*], Asma Abdelaal Abdalla[2] and Emmanuel Emile Nagib Tanyous[3]

[1]Federal Ministry of Health Khartoum, Sudan.
[2]Department of Community Medicine, Faculty of Medicine, University of Khartoum, Khartoum, Sudan.
[3]Department of Community Medicine, Alneelain University, Registrar of Psychiatry, Khartoum, Sudan.

Authors' contributions

This work was carried out in collaboration between all authors. Author MMFS designed the study, performed the statistical analysis, wrote the protocol, wrote the first draft of the manuscript, managed the analyses of the study, managed the literature searches, managed the methodology and discussion. Author AAA supervised and revised the paper and author EENT reviewed statistical analysis. All authors read and approved the final manuscript.

Article Information

DOI: 10.9734/BJMMR/2015/19162
Editor(s):
(1) Rui Yu, Environmental Sciences & Engineering, Gillings School of Global Public Health, The University of North Carolina at Chapel Hill, USA.
Reviewers:
(1) Simeon Achunam Nwabueze, Community Medicine, Nnamdi Azikiwe University, Nigeria.
(2) Anonymous, Università Magna Graecia, Italy.
Complete Peer review History: http://sciencedomain.org/review-history/10550

Original Research Article

Received 28th May 2015
Accepted 14th July 2015
Published 14th August 2015

ABSTRACT

Background: Sudan is now facing the reality of double burden disease. Non-communicable diseases constitute a larger burden in terms of morbidity and mortality and the trend is increasing. Behavioral factors are strongly implicated as risk factors and are subject to behavioral change and health education. There Is lack of studies in Sudan relevant to health education activities among doctors and nurses.
Aims: To assess Knowledge, Attitude and Practice of doctors and nurses about health education activities and life style changes In Khartoum teaching Hospital.

**Corresponding author: Email: moninour@hotmail.com;*

Study Design: Analytical cross sectional hospital based study.
Place and Duration: Khartoum Teaching Hospital, between April and July 2013.
Methodology: Study sample included graduated licensed doctors and nurses, selected using stratified sampling (probability proportional to size). Sample size 196, in which 100 were nurses and 96 were doctors .data was collected by distributing self administered questionnaires. Ethical approval from any participant has been obtained. Database analysis was performed using the Statistical Package for the Social Science program, version 20.
Results: Study revealed that (97%) of both doctors and nurses believed in the importance of health education, but Only (33%) of doctors and (29%) of nurses practice it regularly. Registrars practice more than medical officers (P =.429), males practice more than females (P =.289). Elder nurses practice regularly than younger ones (P=.037). 85% of nurses and 69% of doctors stated resentment of patients as the main hinder of practicing health education. Others mentioned lack of time, work overload, lack of skills and lack of clear protocol to be the cause.
Conclusion: In spite of their awareness of the importance of health education only few doctors and nurses practice it regularly, stating patient resentment and lack of time as major hinders.

Keywords: Health education; doctors and nurses; knowledge; attitude; practice and barriers.

ABBREVIATIONS

KTH: Khartoum Teaching Hospital.
UK: United Kingdom.
USA: United States of America.
WHO: World Health Organization.

1. INTRODUCTION

Health promotion has been defined by the World Health Organization as “the process of enabling people to increase control over and improve their health” [1-2]. It is directed towards actions on health determinants through many approaches. These approaches include: Health education, Environmental sanitation, Nutritional interventions, lastly Lifestyle and behavioral changes [2].

In this study the focus was on health education approach. Historically health education has been committed to disseminating information and changing human behavior. Following Alma-Ata declaration (1978) emphasis has shifted from prevention of disease to promotion of healthy life style, modification of individual behavior to modification of social environment, community participation to community involvement and ownership lastly Promotion of individual and community [2].

Internationally there is a tendency among public health officials especially in Canada, USA and UK to reduce health promotion to health education and social marketing focused on changing behavioral risk factors [3].

While in the Eastern Mediterranean Region, approaches for engaging in effective health promotion activities are not well understood. The traditional approach focuses on knowledge dissemination and raising awareness about diseases and does not address the capacity of individuals to apply this knowledge. Countries of the Eastern Mediterranean Region are grouped into three categories according to how they conduct national health promotion and education activities [4].

The first group of countries has increasing rates of non communicable diseases. Health promotion and education strategies focus solely on the promotion of healthy lifestyles. More emphasis is needed on the social determinants of health. Countries Included in this group are Bahrain, Oman, Kuwait and Qatar. While the second group of countries tends to be in the middle-income bracket. Health promotion and education activities tend to be more disease-oriented. Countries Included in this group are Egypt, Morocco, Syrian Arab Republic and Tunisia. Lastly the third group of countries tends to be in the low-income bracket. Health promotion and education activities are sporadic and uncoordinated. Countries Included in this group are Yemen, Djibouti, Afghanistan and Sudan [4].

Nationally in Sudan Health Promotion Directorate at Federal Ministry of Health is a new establishment in the Sudanese health structure; it is still not more than a composition of small-scale programs and a few isolated positions [5].

Stating the problem in Sudan according to WHO health profile 2008, the proportion of deaths due to non communicable disease was 44% of all deaths. The major causes of death contributing to these figures were Cardiovascular diseases

23%, cancer 4% (commonly lung cancer), respiratory disease 3%, diabetes 2% and other non communicable diseases 11% [6].

Based on current global trends, non-communicable diseases, mental health disorders and injuries are expected to account for 73% of deaths and 60% of the disease burden by 2020.

While the full etiology of these diseases has yet to be understood, behavioral factors are strongly implicated as risk factors and are subject to behavior change through health education.

Doctors and Nurses have the potential to improve the health of patients by placing emphasis upon health education alongside their clinical practice. Health promotion activities should not be opportunistic but planned as an integral part of hospital care. Achieving this not only requires clear standards to guide the overall organization of hospitals towards health promotion activities but a recognition that health promotion is a legitimate role for clinicians, and nurses [7].

Justifying the importance of this study was first to generate more information regarding knowledge, attitude and practice of doctors and nurses about health education activities, in order to design a successful intervention plans, secondly because of the broad field of health education, more researches are needed to examine the role of health education in clinical practices. This has implications in Sudan where little is known about the actual health education practice of medical and nursing professions [7].

The general objective was to assess the knowledge, attitude and practice of doctors & Nurses towards health education and life style changes In Khartoum teaching Hospital, while the specific objectives were to determine the level of their knowledge about specific health education practices such as smoking cessation, physical activity, and nutrition and weight control. Then to assess their attitude and practice towards health education, to identify the factors which prevent them from performing health education. Finally to identify their views about patients' responses to health education.

2. METHODOLOGY

2.1 Study Design

Analytical Cross sectional Hospital based study covering medical officers, registrars and nurses of both gender in Khartoum teaching hospital.

2.2 Study Area and Setting

Is Khartoum Teaching hospital which provides Tertiary health care services. It is considered one of the largest governmental hospitals in Sudan with heavy workload and large number of working staff. It is composed of 26 different departments, in which staff included 303 nurses, 130 medical officers and 172 registrars. It provides services to nearly 20 thousands patients per month in referred clinics, at rate of 30 patients per hour. That's why it was picked to be the focus of study.

2.3 Study Population

1) Doctors: Medical officers and registrars
2) Nursing staff.

Inclusion criteria: All the staff of both genders those were graduated and licensed to practice working in Khartoum teaching hospital.

Exclusion criteria: Undergraduate unlicensed none practicing and non consenting individuals.

2.4 Sampling

2.4.1 Sample size

$$n = \frac{z^2pq}{d^2}$$

n:sample size Z=1.96, P=prevalence0.5, Q=1-P, D=degree of accuracy=0.07.

$$n = \frac{(1.96)^2 \times .5 \times .5}{(.07)^2} = 196$$

2.4.2 Sample

The total number of staff in Khartoum teaching hospital includes:

Nurses =303 Medical officers = 130
Registrars =172 Total =605
Nurses' 303÷605×196=100
Medical officers' 130÷605×196=42
Registrars' 172÷605×196=55

2.4.3 Sampling technique

Stratified sampling (probability proportional to size) then simple random sampling in which all the doctors' and nurses' names in KTH were written in papers and placed in pots and the participants was selected by balloting.

2.5 Data Collection Method

It was conducted using self-administered structured questionnaires, obtained from 100 nurses and 96 doctors through 15 hospital visits.

There were two separate questionnaires used for doctors and nurses because of their different level of knowledge accounted to the different undergraduate and postgraduate professional training for both, while other questions regarding attitude, practice and barriers that hinder practicing health education were the same in both questionnaires. The questionnaire of the doctors consisted of 25 questions of which:

1. 15 questions were about knowledge,
2. 2 questions about the attitude,
3. 5 about the practice,
4. 3 questions about socio-demographic characteristics such as gender, age, and occupation.

The questionnaire of the nurses consisted of 25 questions of which:

1. 16 questions were about knowledge,
2. 2 questions about the attitude,
3. 5 about the practice,
4. 2 questions on socio-demographic characteristic such as gender, and age.

Study variables were: age, gender, occupation, knowledge about smoking, physical activity, weight control, nutrition and barriers.

The questionnaires was obtained from a study about Knowledge and attitudes of primary care nurses and midwives towards health promotion in rural South Africa and was modified to meet the local situation [8].

2.6 Data Analysis

Data management and analysis was performed using the Statistical Package for the Social Science (SPSS) program, version 20.

2.7 Ethical Considerations

Ethical approval from Institutional Review Board of Community Medicine department, Faculty of Medicine University of Khartoum, and research center of Khartoum teaching hospital had been obtained. Any participant in this study was informed about the purpose and the objectives of the study and verbal consent was obtained before filling the questionnaire.

3. RESULTS

3.1 Demographic Data

Sample included doctors in which 53% were females and 47% were males while in nurses 66% were females and 34% were males.

3.2 Level of Knowledge About

3.2.1 Smoking

Study revealed that 83% of doctors stated the prevalence of smoking in Sudan is between 20-25%. Only 55% stated nicotine gums to be effective in smoking cessation. It was found that 47% of doctors never heard about Bupropion (eg: Zyban) while another 24% believed it is not effective in quitting smoking.

Fig. 3.1 shows doctors answers regarding harmful effects of passive smoking in Sudan in Khartoum teaching hospital. Showing 75% agreed it cause Intra uterine fetal death, 83% mentioned sudden infant death syndrome, and 87% mentioned pneumonia.

3.2.2 Physical activity

Study showed that 96% of doctors and 87.6% of nurses believed that exercises are advised for all, while 88% of doctors and 62% of nurses find it of great benefit to patients with coronary heart Disease.

3.2.3 Weight control and obesity

Fig. 3.2 regarding doctors answers about methods of diagnosis of obesity beside BMI, 25% said waist circumference, 16% waist hip ratio, 2% neck circumference and 57% all of the above.

3.2.4 Healthy nutrition

Fig. 3.3 shows doctors answers regarding the average daily caloric requirement for adults in KTH in which 60%said 2000-2500, while 40% said 2500-3000.

Fig. 3.4 shows nurses answers regarding daily caloric requirement for adults in KTH in which 48%said 2000-2500, 45%said 2500-3000, and 7% said 3000-3500.

Fig. 3.5 shows doctors answerers about which nutrients increase the level of cholesterol in KTH in which, 84% chose saturated fat, 15% unsaturated fat, and 1% sugar.

Table 3.1. Shows percentages of nurses' answers regarding level of knowledge of weight control and obesity in KTH

	Doctors			Nurses		
	Yes	No	Don't know	Yes	No	Don't know
There is a strong association between obesity and type II diabetes Mellitus:	93%	6%	1%	79%	12.4%	8.6%
Body mass index of 25 to 35 is considered normal	15%	82%	3%	41%	39%	20%

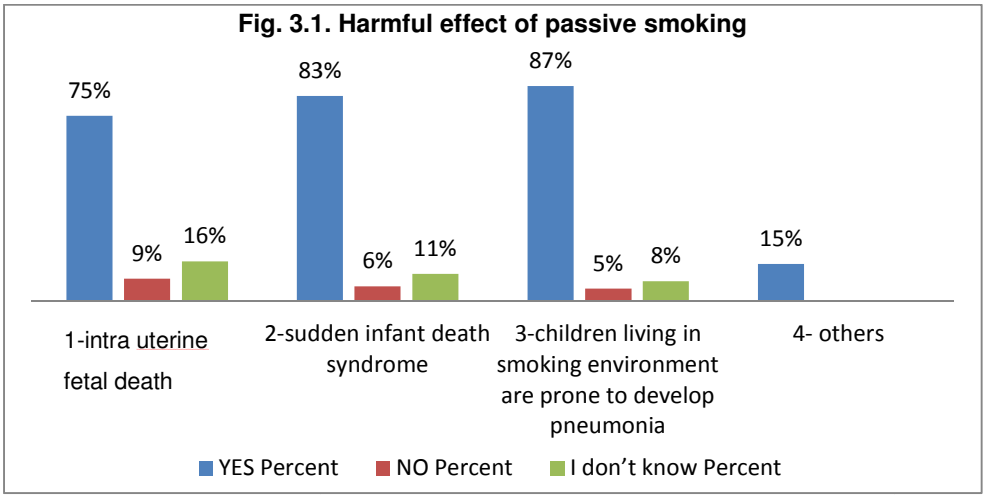

Fig. 3.1. Harmful effect of passive smoking

Table 3.2. Shows that 8.6% of nurses considered obesity is sometimes good for health and is a sign of beauty while 88% answered no

Stem question	Yes	No	I don't know
Obesity is sometimes good for health:	8.6%	88.6%%	2.9%

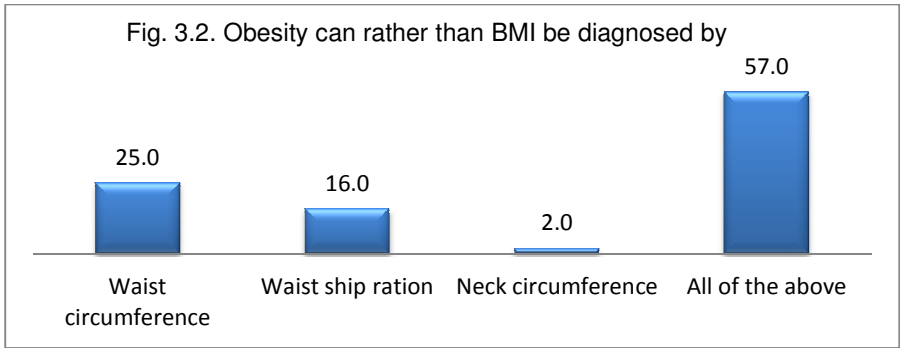

Fig. 3.2. Methods of diagnosis of obesity in addition to BMI include

Fig. 3.6 shows nurses answers about which nutrients increase the level of cholesterol in KTH in which, 22.9% chose unsaturated fat, 69.5% saturated fat, and 4.8% protein.

3.3 Attitude towards Heath Promotion

It was found that 97% of both doctors and nurses think health education has a vital role in health.

Fig. 3.7 showing doctors attitude about changing bad habits of the patients in KTH in which, 92% felt helpless when it come to change patient attitude towards smoking, 80% in exercise, 70% in body weight and 65% in nutrition.

Fig. 3.8 shows nurses attitude about changing bad habits of the patients in KTH in which 81% felt helpless when it came to changing patient

attitude towards smoking, 73% regarding exercise, 71% regarding nutrition and 60% regarding body weight.

3.4 Practice

Fig. 3.9 showing the percentage of doctors practicing health education regularly in KTH shows that 67% don't practice it regularly, and 33% do.

Fig. 3.10 shows the percentage of nurses practicing health promotion regularly in KTH in which 71% don't practice it and 29% do.

3.5 Barriers

Some of the barriers that were identified by the doctors and nurses hindering their practice regarding promoting health education included fear of patient resentment and lack of time.

3.6 Respond

With regards to their evaluation of patients respond to heath promoting activities the doctors and nurses stated that only 50% of patients will respond.

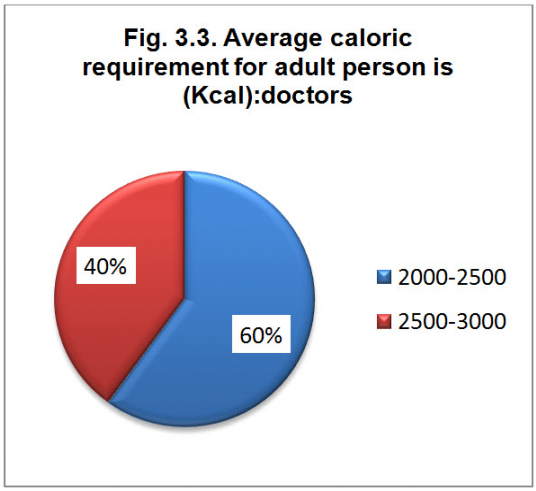

Fig. 3.3. Average caloric requirement for adult person is (Kcal):doctors

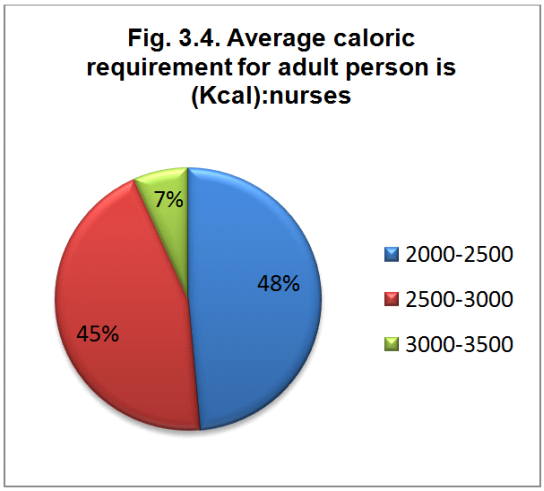

Fig. 3.4. Average caloric requirement for adult person is (Kcal):nurses

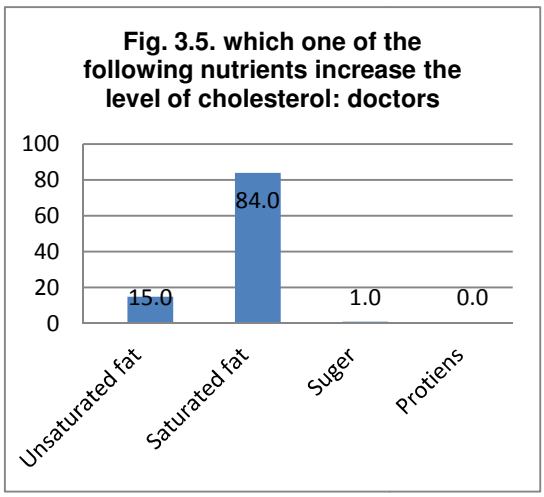

Fig. 3.5. Which one of the following nutrients increase the level of cholesterol: doctors

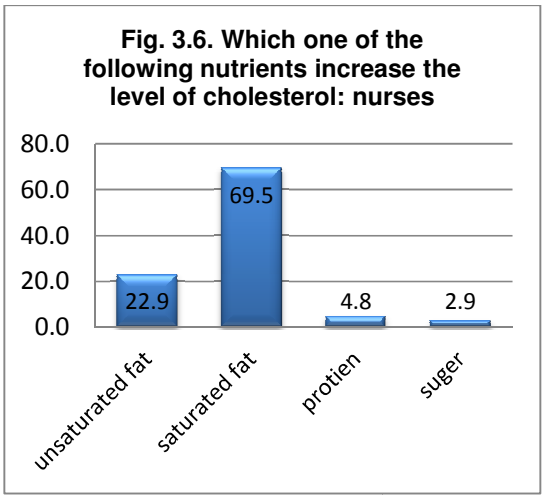

Fig. 3.6. Which one of the following nutrients increase the level of cholesterol: nurses

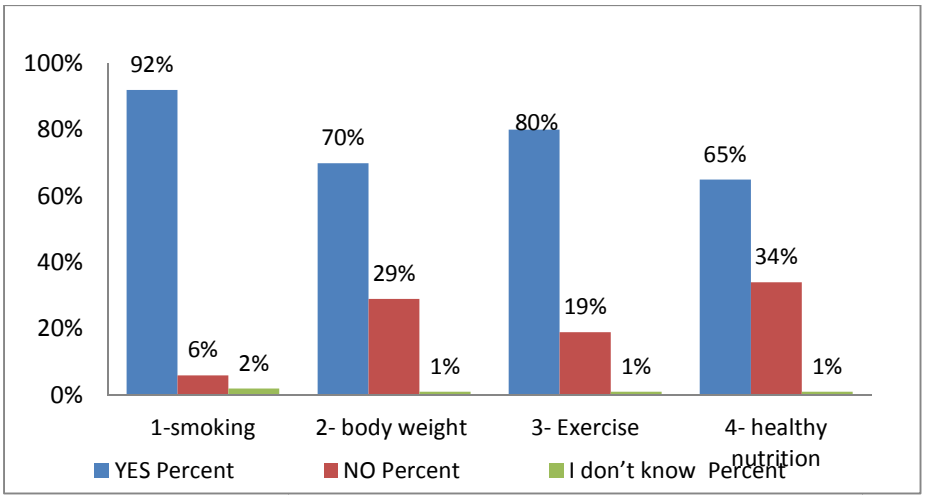

Fig. 3.7. Percent of doctors who felt helpless when it came to changing patients' habits regarding

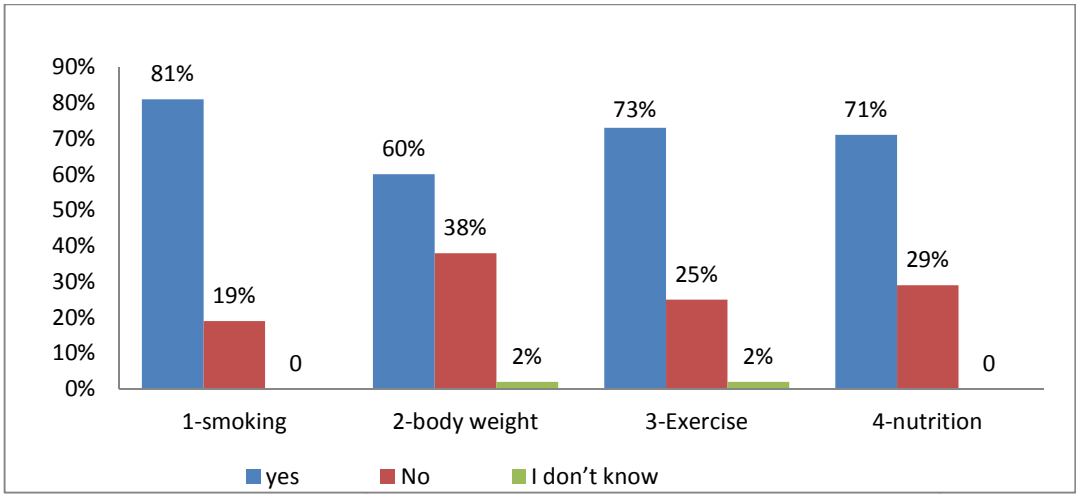

Fig. 3.8. Most nurses feel helpless when it comes to changing patients' habits

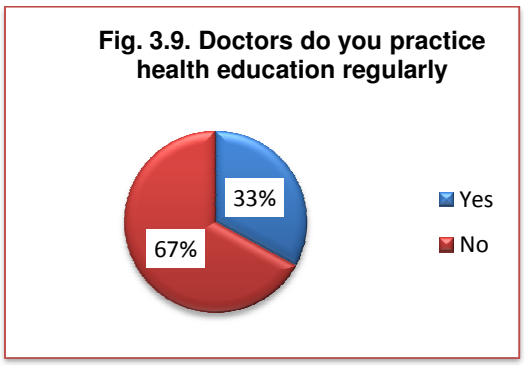

Fig. 3.9. Doctors do you practice health education regularly

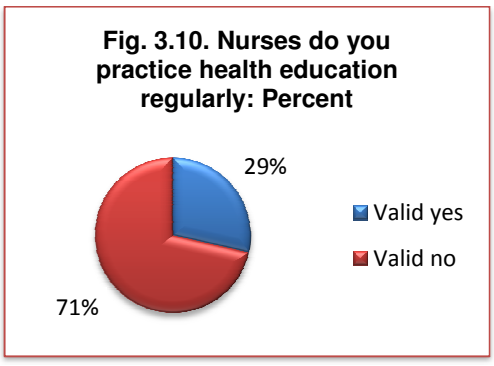

Fig. 3.10. Nurses do you practice health education regularly: Percent

Tables 3.3. Showing the barriers the stop doctors and nurses from performing health education in KTH

	Doctors	Nurses
If you answered (no), that's because which of the following:	**Yes**	**Yes**
1-you do not have enough time to carry out health promotion effectively	66%	73.4%
2- Staff do not have the necessary skills to promote health	24%	30.6%
3-Patients find health education dull and boring	34%	55%
4-Some patients get annoyed when u talk to them about smoking or weight control	69%	85%

Table 3.4. Shows association between practice of health education regularly & doctors Occupation Cross tabulation in KTH

			Occupation		Total
			Registrar	**Medical**	
Do you practice health education regularly	Yes	Count	20	13	33
		% within q3 occupation	36.4%	28.9%	33.0%
	No	Count	35	32	67
		% within q3 occupation	63.6%	71.1%	67.0%
Total		Count	55	45	100
		% within q3Occupation	100.0%	100.0%	100.0%

(P=.429) Odd ratio=1.4

Table 3.5. Shows association between practice of health education regularly and doctors gender Cross tabulation in KTH

			Gender		Total
			Male	**Female**	
Do you practice health education regularly	Yes	Count	18	15	33
		% within Gender	38.3%	28.3%	33.0%
	No	Count	29	38	67
		% within Gender	61.7%	71.7%	67.0%
Total		Count	47	53	100
		% within Gender	100.0%	100.0%	100.0%

(P=.289) Odd ratio =1.57

Table 3.6. Shows association between practice health education regularly: and nurses age cross-tabulation in KTH

			Age					Total
			20-25	**26 - 30**	**31 - 35**	**36 - 40**	**40+**	
Do you practice health education regularly:	Yes	Count	5	15	4	3	3	30
		% within age	16.1%	31.9%	26.7%	100.0%	33.3%	28.6%
	no	Count	26	32	11	0	6	75
		% within age	83.9%	68.1%	73.3%	0.0%	66.7%	71.4%
Total		Count	31	47	15	3	9	105
		% within age	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

(P=.037)

Table 3.7. Shows association between practice of health education regularly and occupation. Cross tabulation to compare the performance of Medical Officers, Registrars and Nurses in KTH

		Occupation			Total
		Registrar	Medical	Nurses	
Do you practice health education regularly:	Yes	20	13	31	64
	No	35	32	74	141
Total		55	45	105	205

(P=.627)

Table 3.8. Shows association between practice of health education regularly and occupation. Cross tabulation to compare the performance doctors and Nurses in KTH

		Occupation 4		Total
		Doctors	Nurses	
Do you practice health education regularly:	Yes	33	31	64
	No	67	74	141
Total		100	105	205

(P=.591) odd ratio 1.17

4. DISCUSSION

4.1 Knowledge

Regarding their knowledge about smoking we find doctors are aware of its prevalence in Sudan, and that not only active smoking but passive smoking also causes harm to health listing susceptibility to pneumonia in children, sudden infant death syndrome and intrauterine fetal death as major complication respectively. As for therapies that help in smoking cessation, only half of them believed that nicotine containing gums could help quitting smoking and also half of them never heard or knew the effect of Bupropoin tabs in this field. From what has been mentioned we find that doctors have sound knowledge about smoking prevalence and side effects but not yet acknowledged about methods of quitting it.

As for body weight control and obesity, the majority of doctors knew the normal BMI, the risk factors predisposing to obesity and its complications. Yet they were not fully acknowledged with other methods rather than BMI of diagnosing it. While in nurses strikingly majority didn't know the normal BMI and some considered obesity is sometimes good for health and as a sign of beauty. Both have adequate knowledge about healthy nutrition, physical activity and exercise in which the majority advice it for everyone not for obese only.

It was found that doctors' knowledge is adequate while nurses' knowledge require further professional training. Similar to the study in South Africa [8].

4.2 Doctors and Nurse Attitude

Almost all doctors and nurses believed in the vital role health education, yet finding themselves helpless- doctors to a higher degree than nurses- in changing patients' habits. Similar to the study done in Africa were they seemed to be more negative than positive in changing patients' habits [8].

4.3 Doctors and Nurses Practices

Strikingly only one fourth of doctors and nurses practice it regularly. This study revealed that despite that females are more than males in number but yet in practicing health promotion males practice it more, which can be explained by the higher percent of females listing barriers. male doctors and nurses practice it more the female doctors and nurses and that Registrar practice It more than the medical officers (odd ratio 1.4), Elder nurses practice it more than younger ones. Strikingly there were no significant difference in the performance of doctors and nurses (odd ratio 1.1). Similar to study in South Africa where it revealed that male staff reported more knowledge and a more positive perception and practice about health promotion than female Staff [8].

4.4 Barriers that Held them from Practicing Health Education

The majority thought that the patients will be annoyed when talking to them about changing wrong behaviors and mentioned it as the major hinder. Similar to a study which was done in Africa where 61.2% recorded it as one of the major causes holding them from practicing health education. Nevertheless nurses working in Saudi Arabia & in Malta appeared to face the same challenge as there was consensus across the sample that patients can be annoyed when asked about health related behaviors when these are not directly related to their presenting illness [9,10].

They proclaimed secondly that they don't have enough time to carry it effectively .This matches with the results concluded in South Africa where 56.5 % of nurses and in Saudi Arabia were 53.2% of nurses and Malta where 56% of doctors stated having no time to practice it [9].

One fourth of doctors and nurses admitted they don't have the required skill to practice it. This is consistent with the study in Saudi Arabia but also they are facing an additional challenge with understanding language and communications due to multi nationality of the staff.

Only few mentioned that there is no clear system guided by the health state for implementing it in hospitals which was not a mentioned constrain in Saudi Arabia, Malta and Africa [8,9, and 10].

4.5 Responds

This study found that compliance with health promotion activities was seen as a problem from the staff point of view, where the majority felt helpless in changing patients wrong behaviors and believed that only half of patient will respond and its only for a while after which they return to those bad habits. Which is similar to the study done in South Africa [8].

5. CONCLUSION

This study explored health education activities in Khartoum Teaching Hospital regarding doctors and nurses'knowledge attitude, and practice, the barriers and patients responses. It was concluded that In spite of their awareness of the importance of health education only few doctors and nurses practice it regularly stating the resentment of patients, lack of time, work overload, lack of skills, and lack of clear protocol as the causes of not practicing it. It is a major problem that needs to be tackled immediately, as non communicable diseases are increasing dramatically in Sudan.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

REFERENCES

1. Who.int. WHO. The Bangkok charter for health promotion in a globalized world; 2010 (11 August 2005) [Internet] [Cited 3 June 2013].
   Available:http://www.who.int/healthpromotion/conferences/6gchp/bangkok_charter/en/
2. Park K, Park J. Park's textbook of preventive and social medicine. Nineteenth edition. Jabalpur: Banarsidas Bhanot; 2007.
3. Who.int. WHO. Health promotion; 2010 [Internet]. [Cited 3 June 2013].
   Available:http://who.int/topics/health_promotion/en/
4. Emro.who.int. WHO EMRO. __404__; 2010 [Internet]. [cited 3 June 2013]. Available:http://www.emro.who.int/entity/health-education/countries/
5. Elsubai I. Health promotion prospects in Sudan. Sudanese Journal of Public Health. 2007;2(1):10-20.
6. Who.int. WHO. Sudan: Country profiles; 2011 [Internet]. [Cited 3 June 2013]. Available:http://www.who.int/gho/countries/sdn/country_profiles/en/
7. Whitehead D. Health promotion in nursing: A derridean discourse analysis. Health Promotion International. 2010;26(1): 117-127.
8. Peltzer K. Knowledge and attitudes of primary care nurses and midwives towards health promotion in rural South Africa. curationis. 2001;24(4).
9. Aldossary A, Barriball L, While A. The perceived health promotion practice of nurses in Saudi Arabia. Health Promotion International. 2012;28(3):431-441.

10. Sammut M. Family doctors and health promotion: Do we practice what we preach? Malta Medical Journal. 2006; 18(01):26-31.

Peer-review history:
The peer review history for this paper can be accessed here:
http://sciencedomain.org/review-history/10550