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From the Editor

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This is the sixth issue this year with a number of papers from Libya, Armenia, Iran, Egypt and Qatar. The papers deal with various themes ranging from medical ethics to health care systems.

A cross sectional study from Qatar attempted to assess the knowledge of breast cancer, to determine the attitude towards breast cancer and breast self-examination and to identify the current practice of breast self-examination among women attending PHC centres in Doha in 2009. The author stressed that breast cancer is the most common cancer in Qatar. The authors concluded that many women had knowledge about risk factors of breast cancer, the signs, symptoms and the early detection methods of breast cancer. The seriousness of breast cancer and the benefits of breast self examination were perceived by most of the participating women, while susceptibility to breast cancer was not. The study recommends increasing the awareness about breast cancer risk factors and emphasizing the importance of practicing breast self examination through regular breast cancer awareness campaigns.

A prospective observational study from Iran attempted to determine the students' perceptions about a teaching program in a pediatric ward. The authors examined the students' perception during a two year period by using a 5 – point scale questionnaire. The finding highlights the perceived strengths and weaknesses in the teaching program of a pediatric ward. The meaning of data requires further efforts to resolve the weaknesses of programs in order to achieve better student' satisfaction.

A case control study from Armenia attempted to identify the risk factors leading to the development of angiopathy of lower extremities in Type 2 diabetes patients 40 years old and above. A total of 197 cases and 197 controls, were selected through simple random sampling. The outcome variable was diabetic angiopathy of lower extremities. There was statistically significant associations between diabetic angiopathy of lower extremities and duration of the disease, BMI, smoking status, poor self-monitoring of blood glucose level, and hypertension. The authors concluded that multiple factors and mechanisms contribute to the development of diabetic angiopathy of lower extremities in Type 2 diabetes patients.

A paper from the Wonca Research group, looks at issues of Equity in Global Healthcare, including current status, barriers and challernges for the future. The author team states that global health provides a challenge for primary care and general practice which will become increasingly important in the future as the prevalence of multimorbidity increases. There is increasing likelihood of survival from acute illnesses and increase an in the elderly population. This literature review focuses on the health inequities, the role of family medicine and the factors that are essential in overcoming these inequalities.

A paper from Libya examined primary health care components namely manpower, equipment, space arrangements and management systems in Benghazi city. A sample of 9 health centres and 7 polyclinics were selected for gathering information. Facilities were well staffed. The medical and management side appeared strong in terms of education, experience and skills. Facilities had full equipment but were neither well utilized nor well maintained. Facilities had either started or were in the process of initiating system based management techniques. Human resource development activities were not emphasized at primary health care level. Decision making processes at these facilities require improvement through participation. Demand analyses should help to manage equipment and material resources. Development of systems and manuals should be encouraged to improve standards.

A cross sectional descriptive paper from Egypt looked at self-reported practice patterns regarding treatment of dyslipidemia among physicians under training in family medicine in Ismailia governorate-Egypt. The total number of the sample was 114 physicians. The study population was subjected to structured questionnaire. The results revealed that among studied family physicians 87.7 % of them had poor practice score regarding dyslipidemia screening and assessment. This study demonstrates that not all recommendations of the NCEP ATP III guidelines have been adopted in clinical practice by most studied family physicians. It also demonstrates the large degree of practice variation regarding dyslipidemia assessment and management.

A paper from Libya looked at medical ethics and torture. The author stressed that the global community still has much to do in the field of human rights. Such rights stretch from: the right to life and rights to health, water, and food; to prohibition against torture and inhumane or degrading treatment or punishment; and crimes against humanity. All those factors are of concern to health professionals, who have to deal with the consequences. It is almost unbelievable that some doctors participate in torture, in violation of medical ethics, let alone society's, moral codes. Abuses of human rights remain widespread, by governments of every hue. Health professionals worldwide need to remain vigilant to help to prevent human rights abuses and refuse to participate in such abuses. A year from now, will we be writing any differently?

Risk factors for development of angiopathy of lower extremities in Type 2 diabetes patients: a case-control study, Yerevan, Armenia

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Abstract

Background: Diabetes Mellitus is one of the most common non-communicable diseases in the world. According to the WHO, 6% of all deaths in Armenia resulted from diabetes in 2002. Complications affecting lower extremities are among the most common complications of diabetes: about 15% of diabetes patients eventually suffer from foot ulceration.

Objective: To identify the risk factors leading to the development of angiopathy of lower extremities in Type 2 diabetes patients, 40 years old and above.

Methods: This study included 197 cases and 197 controls, selected through simple random sampling. The outcome variable was diabetic angiopathy of lower extremities.

Results: There was a statistically significant association between diabetic angiopathy of lower extremities and duration of the disease (OR=1.14; p<0.01), BMI (OR=1.20; p<0.01), smoking status (OR=1.11; p<0.01), poor self-monitoring of blood glucose level (OR=2.78; p<0.01), and hypertension (OR=6.10; p<0.01). The odds of diabetic angiopathy of lower extremities was 10 times higher (OR=10.20; p<0.01) among those diabetes patients who did not check their feet on a regular basis from the moment they were diagnosed with diabetes.

Conclusion: This study showed that multiple factors and mechanisms contribute to the development of diabetic angiopathy of lower extremities in Type 2 diabetes patients.

Key words: Type 2 Diabetes; diabetic angiopathy of lower extremities; foot self-care

Introduction

Diabetes Mellitus is one of the most common non-communicable diseases in the world (1). The global burden of diabetes is estimated to increase from 171 million people in 2000 to 366 million by 2030; this will also bring a substantial increase in the prevalence of complications (1). Diabetes complications include diabetic retinopathy, nephropathy, ischemic heart disease, macro- and microangiopathy of lower extremities, gangrene, amputation, neuropathy, and stroke. Complications affecting the lower extremities are among the most common manifestations of diabetes; literature suggests that 15% of diabetes patients eventually suffer from foot ulceration during their lifetime (2).

The major risk factors for developing diabetic angiopathy of lower extremities are the following: presence of hypertension, smoking, obesity, poor blood glucose control, loss of protective sensation, non-compliance with treatment, having diabetes more than 10 years, and history of previous foot ulceration (3,4,5). The main cause of hospitalization among diabetes

patients with angiopathy of lower extremities is infection of foot ulcers (3). At the same time, about half of the diabetes related amputations could be prevented through regular foot examinations and diabetes patient education (3,6,7).

Chronic diseases accounted for 90% of all deaths in 2002, and 6% of all deaths resulted from diabetes in Armenia (8). According to the World Health Organization (WHO), diabetes is the third, behind cardio-vascular diseases and cancer, cause of death in Armenia, and has been steadily increasing over the past decade (8). If in 1990 the death rate in Armenia due to diabetes was 14 per 100,000 population; in 2003 it was 53 per 100,000 (9). However, there is a significant lack of published studies exploring the issues of diabetes in Armenia and other former Soviet Union countries.

Patients and Methods

The main aim of this study was to identify the prevalence of risk factors leading to the development of angiopathy of lower extremities in Type 2 diabetes patients aged 40 years and older in Yerevan, Armenia.

A case-control study was conducted in the Polyclinic and Hospital of Police in Yerevan. Cases were defined as Type 2 diabetes patients aged 40 years and older with clinically and instrumentally confirmed diagnosis of angiopathy of lower extremities and being treated at the Police Polyclinic and Hospital in Yerevan. Controls were defined as Type 2 diabetes patients aged 40 years and older without angiopathy of lower extremities and being treated at the same health facilities. Type 1 diabetes patients were excluded from this study.

The outcome variable was the presence of diabetic angiopathy of lower extremities. The main independent variables of interest were: self-monitoring of blood glucose level, Body Mass Index (BMI), duration of the disease, smoking status, daily alcohol consumption, foot self-checking following the diagnosis of diabetes, and presence of hypertension. The research team used simple random sampling methodology to choose the participants of the study: estimated sample size of 217 cases and 217 controls (10). The study instrument was an interviewer-administered questionnaire, and the study team developed it based on several validated questionnaires (11,12,13,14,15). Appropriate changes were made after pre-testing of the translated instrument.

The study used STATA 10.0 statistical package for statistical analyses. Differences in distribution and proportions were evaluated using the z-test or chi-squared test. Differences in means of continuous variables were assessed using the independent t-test. The Fisher's Exact test was used for variables with small frequencies (10).

All covariates identified as statistically significant in the bivariate logistic analysis ($p<0.01$) were included in a multiple logistic regression analysis. The multiple logistic regression models were applied to control for potential confounders. The current study applied Variance Inflation Factor (VIF) method for measuring the severity of colinearity among variables in the final model. The Likelihood Ratio test helped with the model building to obtain the most parsimonious model. The model goodness-of-fit was evaluated by Hosmer-Lemeshow chi-square test statistics (16).

The American University of Armenia Institutional Review Board approved the protocol of this study before starting the fieldwork.

Results

About 197 cases and 197 controls participated in this study with response rates of 92% and 91%, respectively. Descriptive statistics (see Table 1) showed that cases were older compared to controls, had higher BMI than the controls, and the duration of diabetes was significantly longer in cases compared to controls (16 years vs. 8). The majority of the study population was males: 95% cases and 84% controls.

The statistical approach to checking for confounding showed that age and gender were confounders of the relationship between development of diabetic angiopathy of lower extremities and such risk factors as self-monitoring of blood glucose level, physical activity level, presence of hypertension, daily alcohol consumption, and foot self-examination following the diagnosis.

Each full model has been tested against the nested model using the Log-likelihood Ratio Test; the best fitting model included duration of the disease, self-monitoring of blood glucose level, presence of hypertension, current smoking level, BMI, foot self-checking following the diagnosis of diabetes, age, and gender (see Table 2 - page 6). The Hosmer-Lemeshow Chi-square test statistics was 6.89 (prob > Chi2 = 0.5485) which supported the assumption that the model was the best fitting model.

In order to avoid colinearity, the Pearson correlation coefficients were calculated for all the independent variables of interest; the study did not observe significant correlations between them (10). The findings were consistent when the study applied the VIF method for detecting colinearity. The final model demonstrated a good discrimination; the area under the Receiver Operating Characteristics (ROC) curve was 0.8886 (10,16).

The analysis showed that one year increase in duration of the disease increased the odds of getting diabetic angiopathy of lower extremities 1.14 times (95% CI: 1.03-1.25), after controlling for other variables. The odds of diabetic angiopathy of lower extremities was 2.78 times (95% CI: 1.51-7.63) higher in cases of poor self-monitoring of blood glucose level (less than once a day) and 6.10 times (95% CI: 1.26-22.44) higher in diabetes patients with hypertension, after adjusting for other variables.

One-unit increase in BMI (kg/m2) increased the odds of getting diabetic angiopathy of lower extremities 1.20 times (95% CI: 1.08-1.34), after

Variable name	Cases (n=197)	Controls (n=197)	p-value
Age (mean±SD	62±7	52±7	0.000
BMI (mean±SD)	30±4	27±5	0.000
Duration of the disease (mean±SD)	16±7	8±5	0.000
Gender			
Male Female	188 (95.4%) 9 (4.6%)	166 (84.3%) 31 (15.7%)	Fisher's exact 0.000
Marital status			
Never married Married Divorced Widow/Widower	6 (3.1%) 137 (69.5%) 2 (1.0%) 52 (26.4%)	3 (1.5%) 162 (82.2%) 6 (3.4%) 26 (13.2%)	Fisher's exact 0.002
Educational level			
School (less than 10 years) School (10 years) Professional technical education (10-13 years) University/Institute (14-16 years)	2 (1.0%) 48 (24.4%) 96 (48.7%) 51 (25.9%)	4 (2.0%) 33 (16.8%) 88 (44.7%) 72 (36.5%)	Fisher's exact 0.059
Employment status			
Yes No (retired)	42 (21.3%) 155 (78.7%)	102 (51.8%) 95 (48.2%)	0.000
Smoking status			
Current Former Never	154 (67.3%) 42 (18.3%) 33 (14.4%)	127 (73.4%) 38 (22.0%) 8 (4.6%)	Fisher's exact 0.000
Current smoking level (# of cigarettes per day) (mean±SD)	24±7	15±9	0.000
Family history			
Absence Presence Don't know	79 (40.1%) 83 (42.1%) 35 (17.8%)	96 (48.7%) 80 (40.6%) 21 (10.7%)	0.074
Alcohol consumption			
Current Former Never	150 (76.2%) 41 (20.8%) 6 (3.0%)	142 (72.1%) 35 (17.7%) 20 (10.2%)	Fisher's exact 0.015
Alcohol daily consumption			
Moderate Heavy	52 (34.7%) 98 (65.3%)	75 (52.8%) 67 (47.2%)	0.002
Hypertension			
Absence Presence	124 (62.9%) 73 (37.1%)	177 (89.9%) 20 (10.1%)	0.000
Self-monitoring of blood glucose level			
At least once a day Less than once a day	43 (21.8%) 154 (78.2%)	95 (48.2%) 102 (51.8%)	0.000
Physical activity level			
Low Moderate	132 (67.0%) 65 (33.0%)	102 (51.8%) 95 (48.2%)	0.002
Foot self-checking following the diagnosis of diabetes			
Yes No	20 (13.5%) 128 (86.5%)	52 (49.1%) 54 (50.9%)	0.000
Knowledge score (mean±SD)	3±1	2±1	0.002

Table 1: Characteristics of study population

(continued next page)

Variable name	Cases (n=197)	Controls (n=197)	p-value
Adherence to treatment (mean±SD)	3±2	2±1	**0.000**
Following proper diet (mean±SD)	4±2	5±1	**0.006**
BMI			
≤24.9 25-29.9 ≥30	23 (11.7%) 49 (46.2%) 83 (42.1%)	97 (49.1%) 49 (25.0%) 51 (25.9%)	**0.000**
Foot checking by physician following the diagnosis			
Yes No	74 (53.6%) 64 (46.4%)	47 (69.1%) 21 (30.9%)	**0.034**

Table 1: Characteristics of study population (continued)

Variable name	Adjusted Odds Ratios	95% CI	P value	Log Likelihood Ratio test
Duration of the disease	1.14	1.03- 1.25	**0.013**	
Self-monitoring of blood glucose level (less than once a day)	2.78	1.51- 7.63	**0.038**	
Foot checking following the diagnosis	10.20	2.61-30.51	**0.000**	Chi^2=9.69
Presence of hypertension	6.10	1.26-22.44	**0.006**	**P=0.0009**
BMI	1.20	1.08- 1.34	**0.001**	
Current smoking level (# cigarette/day)	1.11	1.07- 1.17	**0.000**	
Age	1.10	1.01- 1.19	**0.008**	
Gender	2.05	2.94-14.26	**0.469**	

Table 2: Multiple logistic regression model

controlling for other variables. The odds of diabetic angiopathy of lower extremities increased 1.11 times (95% CI: 1.07-1.17) with smoking one more cigarette per day (dose-response relationship), given other variables were fixed. The odds of diabetic angiopathy of lower extremities was 10.20 times (95% CI: 2.61-30.51) higher among those diabetes patients who did not check their feet on a regular basis from the moment they were diagnosed with diabetes, after controlling for other variables.

Since the majority of the study population were men, the research team ran the final model for the male population only. The odds ratios remained the same for all the variables in the model.

Discussion

This case-control study demonstrated statistically significant associations between angiopathy of lower extremities and poor self-monitoring of blood glucose level (less than once a day), duration of the disease, presence of hypertension, BMI, smoking level, and foot self-checking on a regular basis from the moment they were diagnosed with diabetes. These findings remained robust when the final model was run on the sub-sample of male participants only.

The findings of the current study regarding the association of duration of the disease and development of diabetic angiopathy of lower extremities were consistent with results from other studies, which reported mean duration of about 16 years of having the disease for development of diabetic macro- and microangiopathy with the adjusted OR ranging from 1.22 to 1.43.

The results of the current study also indicated a higher risk of having diabetic angiopathy of lower extremities with poor self-monitoring of blood glucose level; existing literature reports adjusted OR ranging from 1.13 to 1.35 (3,4,17).

The findings of this study were consistent with the literature about enhanced risk for micro- and macrovascular disease among smoking Type 2 diabetes patients (18,19,20,21).

The results of the current study suggested that the presence of hypertension was a modifiable risk factor for development of diabetic angiopathy of lower extremities, and this result was consistent with findings from other studies, which presented the association of hypertension with both diabetic macro- and microangiopthy and reported adjusted OR ranging from 1.24 to 2.65 (95% CI: 1.13 - 2.41) (22,23).

The findings of the current study indicated higher risk of developing diabetic angiopathy of lower extremities among diabetes patients with higher BMI; this was consistent with results from previous studies that found that people with diabetes were commonly overweight, which nearly doubled the risk of developing diabetic angiopathy of lower extremities as well as other diabetes complications (23,24).

The most interesting finding of this study was the importance of foot self-checking following the diagnosis of diabetes for preventing foot complications. The results of

the current study indicated about 10 times higher risk of developing diabetic angiopathy of lower extremities among those diabetes patients who did not check their feet on a regular basis from the moment they were diagnosed with diabetes (adjusted OR= 10.20; 95% CI: 2.61-30.51).

Although the effect of this factor is not well described in the literature, particularly in terms of OR, existing studies suggest that the risk of diabetes-related foot complications can be reduced by 49% to 85% by proper preventive measures, patient education, and appropriate foot self-care (3,6,25). One study suggested that the risk of developing foot ulceration in Type 2 diabetes patients was 10.3 times (OR=10.3; 95% CI: 6.33- 22.3) greater in patients receiving standard therapy that included diabetic foot education and daily foot self-checking, than in patients receiving enhanced therapy, which also included use of an infrared skin thermometer to measure temperatures on six foot sites twice daily (25). The possible explanation of this could be that the health care system provides little information to persons diagnosed with diabetes, making it difficult for those persons to understand how to manage diabetes.

Strengths of this study were the following: the cases and controls were identified from the medical charts based on the results of duplex- or Doppler- angiography; the study considered all possible confounders and interactions suggested by the literature. Study limitations were the following: the diabetes complications other than angiopathy of lower extremities were not considered in this study; the study was conducted in two health facilities only, chosen for convenience.

Conclusion

This study showed that multiple factors and mechanisms contribute to the development of diabetic angiopathy of lower extremities in Type 2 diabetes patients, but diabetes self-management is one of the most important factors. Therefore, educational programs for diabetes patients are recommended regarding diabetes self-management, especially routine self-monitoring of blood glucose level and daily foot self-checking. Educational programs for endocrinologists and for family physicians would also be helpful. Endocrinologists and family physicians should promote healthy lifestyle and effective self-management among Type 2 diabetes patients.

Although the current study targeted one professional group in Yerevan, Armenia, the findings reflect the situation with diabetes care in Armenia and other former Soviet Union countries. Acknowledgements Our special thanks are extended to the administration of the Hospital and Polyclinic of Police of Yerevan and the participants of the study. We appreciate Dr. Kathleen White's (Johns Hopkins School of Nursing) contribution to this study.

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Knowledge and Attitude towards Breast Cancer and Breast Self Examination among Women Attending Primary Health Care Centres in Doha, 2009

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Abstract

Background: Breast cancer is the most common cancer in Qatar, accounting for 29.9% of all female cancers, with an incidence rate of 13.3% in 2002. Knowledge and positive attitude towards breast cancer and the performance of breast self examination is crucial for early treatment and reduction in related mortality.

Study Objectives: To assess the knowledge of breast cancer, to determine the attitude towards breast cancer and breast self-examination and to identify the current practice of breast self-examination among women attending PHC centres in Doha in 2009.

Methodology: This is a cross sectional study conducted in the PHC centres in Doha. Women attending the PHC centres, aged 20 to 65, Qatari and non-Qatari women were studied. The sampling method used was a two stage stratified systematic random sample. The sample size was calculated with a total of 262 participants. The sample population was collected from six health centres proportionately according to the average number of the women served by each PHC centre. Data collection tool was in the form of an interview aided questionnaire, composed of 4 sections; personal and demographic information, knowledge about breast cancer, attitude (perceived seriousness, susceptibility, barriers and benefits). Finally the last section includes data about practice of breast self examination. Appropriate data analysis was done. Ethical considerations were followed throughout the study.

Results: The total response rate was 99.2%. The most identified risk factors for breast cancer by the studied women were smoking, family history, and exposure to radiation (72%, 67.7% and 63.8% respectively). Fifty percent of the women knew the signs, symptoms and more than 90% knew the methods of breast cancer early diagnosis. 81.6% of the participating women perceived seriousness of breast cancer with a mean and standard deviation of 3.42± 0.8 and only 15.7% of the participating women perceived their susceptibility to breast cancer with a mean and standard deviation 2.75± 0.7. A percent of 90.4 of the women perceived the benefits of breast self examination. The most perceived barrier for not practicing breast self examination was fear of not being able to do it properly 56.9%, and the higher the level of the education the more participating women overcame the perceived barriers. Thirty five percent of the studied women practiced breast self-examination. Only 22.8% of the women who practiced breast self-examination performed it at the correct time (once every month). Eighty nine percent of the participating women intended to do breast self-examination over the next year.

Conclusion: Many women had knowledge about risk factors of breast cancer; the signs, symptoms and the early detection methods of breast cancer. The seriousness of breast cancer and the benefits of breast self examination were perceived by most of the participating women, while susceptibility to breast cancer was not.

A percentage of 35 of the studied women practiced breast self examination. The most frequent barrier identified by the participating women for not practicing BSE was fear of not being able to do breast self examination properly.

Recommendations: The study recommends increasing the awareness about breast cancer risk factors and emphasizing the importance of practicing breast self examination through regular breast cancer awareness campaigns. Providing health educational sessions about BSE including practical demonstrations of breast self examination for women attending PHC centres is also recommended.

Introduction

Breast cancer in women is a major international health burden. [1]. Low- and middle resource countries have historically reported lower rates of breast cancer than high-resource countries. However, over the past twenty to thirty years, data supports a trend of increasing incidence and mortality from breast cancer in lower resource countries. Of the over million new cases of breast cancer that were diagnosed worldwide in 2009, low- and middle-resource countries are burdened with 45% of breast cancer cases and 55% of breast cancer-related deaths, because of the challenges in detection and treatment [2-5].

The World Cancer Report from the World Health Organization (WHO) suggests that cancer rates are set to increase globally at an alarming rate over the next decade. Breast cancer is by far the most common cancer of women worldwide, comprising 23% of the estimated annual 4.7 million female cancer diagnoses. (5). Breast cancer is the most common cancer in Qatar, accounting for 29.9% of all female cancers, with an incidence rate of 5 cases per 10000 in 2007 [6]. Statistical data from the cancer registry unit in Qatar demonstrates that most women with breast cancer had distant metastasis in 7% of cases.

Breast cancer is more common in ages between 46-55 years old accounting for 64% of total breast cancer. Most cases present with grade I or II and there is a decrease in severe cases which reflects improvement in patient awareness of the problem [6].

There is no single factor that is responsible for the majority of breast cancers in women. Nevertheless, there are three factors which strongly increase a woman's risk of developing this disease: advancing age, family history of the disease, and a personal history of breast cancer. Several other factors can increase a woman's risk of developing breast cancer, such as age at time of reproductive events, pregnancy and breastfeeding, hormone replacement therapy and race/ethnicity. Women who smoke also appear to have an increased risk of breast cancer [7].
Early detection of breast cancer is crucial for early treatment and reduction in related mortality. Recommended screening methods to reduce breast cancer mortality and morbidity include breast self examination (BSE), clinical breast examination (CBE), and mammography. Of these, BSE, which should be performed as early as 20 years old and over and done monthly, provides an alternative and relatively simple, low-cost method of early detection and can be performed in conjunction with mammography and CBE [8]. Screening by CBE is performed every 3 years from ages 20 to 39 and at age 40 and over, should be done yearly and for mammography from 1 -2 years from age 40 to 49, and yearly from ages 50 and over. [9, 10]

The literature offers evidence that there is an association between regular BSE and more favourable clinical and pathological stages of disease. The 5-year survival rate for localized breast cancer has increased from 72% in the 1940s to 97% in the 1990s, if detected early by BSE or mammogram [11]. Approximately 70% of all breast masses are self-detected, yet many women fail to carry out this important monthly practice [12, 13].

Many factors have been associated with BSE performance, such as health beliefs (e.g., perceived susceptibility, seriousness, benefits, barriers and confidence), socio-demographics and breast cancer-related variables [14,18].

Knowledge regarding breast cancer symptoms and risk factors affects women's lives by reducing patients delay for seeking medical attention and detecting the breast cancer in an early treatable stage. Breast cancer is increasingly becoming an international crisis. The good news is that there is evidence to suggest that a healthy lifestyle and public health actions can curb the increase in cancer incidence, and together they have the potential to prevent approximately one-third of cancers worldwide [19-23].

Methodology

The study was a cross sectional study aiming to assess the knowledge and attitude towards breast cancer and the practice of BSE among PHC women attendees in Doha. The study was conducted in the PHC centres in Doha. Qatar has a well-established PHC system, which provides comprehensive services to the entire population on an equitable basis. PHC services (22 centres: 12 in Doha) are provided through three separate departments: PHC Department, Preventive Health Care Department and Medical Commission. All health centres provide comprehensive PHC services, both preventive and curative, with a referral system to hospitals for specialized care.

Study population comprised women attending PHC centres: aged 20 to 65, both Qatari and non-Qatari. Women diagnosed with breast cancer were excluded.

The sampling method used was a 2 stage stratified systematic random sample. First: Selection of PHC centres was done. Stratification according to the geographical area was conducted for the selection of PHC centres in Doha. PHC centres are classified into three geographical areas into middle, north, and west located centres. The middle area included six PHC centres, the south area included two PHC centres and the west area included four PHC centres. Consequently, a proportional allocation was conducted from each stratum. The investigators had randomly allocated the PHC centres so that every centre has the same probability of being chosen as a participating centre. Three PHC centres were allocated from the middle area, two PHC centres from the west area and one PHC centre from the south area, with a total of six PHC centres.

Secondly, selection of study participants was done. Study participants attending the PHC

centres were selected through a systematic random sample from the population frame, which is the daily list of attendance in each PHC centre, with the first participant being selected randomly.

The sample size calculated was 201; 30 % was added to the sample in order to compensate for non-responses, giving a total sample size of 262 participants. (Confidence limit level of 95%) .The sample population was collected from six health centres proportionately according to the average number of the women served by each PHC centre. Data collection tool was in the form of an interview questionnaire. The attendees were interviewed through this questionnaire by the investigators, assisted by two trained social workers speaking both English and Arabic languages. The questionnaire was composed of 4 sections; the first composed of personal and demographic information about the studied population, the second consists of knowledge about breast cancer, the third section about attitude regarding BSE, and finally the last section includes data about practice of BSE.

Validation and reliability of the data collection tool was conducted through translation, back translation, pre-testing, training of interviewers and professional review. The questionnaire was checked by the investigator to detect any missing data.

Study variables

Knowledge:
Symptoms, signs, risk factors, and early detection of breast cancer

Attitude:
- o Perceived seriousness, perceived degree of personal threat related to breast cancer.
- o Perceived susceptibility of breast cancer, personal risk of getting breast cancer.
- o Perceived benefits of BSE for the individual.
- o Perceived barriers of performing BSE for the individual.
- o Perceived confidence regarding competence to perform BSE with perceived ability to detect abnormal lumps.

Practice: BSE current practice, frequency, confidence and the intention to practice it.

Data analysis:
Coding of the questionnaire was done and data were entered in SPSS version 17 and double checked by the investigators. Results were presented through frequency and cross tabulation tables and figures. Statistically significant relations in the study were detected through Chi square. Also quantitative data were presented by mean and the standard deviation. Monte Carlo test was done for significance for tables with expected values less than 5. The significance level used in the study was 0.05 with a confidence level of 95%.

Socio-demographic variables	Frequency (%)
Age *	
20-30	114 (43.8%)
31-40	92 (35.4%)
≥40	54 (20.8%)
Nationality	
Qatari	142 (47.7%)
Non Qatari	136 (52.3%)
Marital status	
Single	40 (15.4%)
Married	202 (77.7%)
Divorced	13 (5%)
Widowed	5 (1.9%)
Educational level	
Primary	36 (13.8%)
Preparatory	16 (6.2%)
Secondary	80 (30.8%)
College	114 (43.8%)
Postgraduate	14 (5.4%)
Occupation	
Not working	163 (62.7%)
Manual work	4 (1.5%)
Clerical	38 (14.6%)
Professional	55 (21.2%)

Table 1: Frequency distribution of socio-demographic variables of the studied women (N = 260)

Results

A total of 260 women participated in the study with a response rate of 99.2%.

Table 1 presents the socio-demographic data of the studied women, which showed that almost half of the women (43.8%) were in the age category of 20 to 30. More than half of the women were non Qatari attaining 52.3%, while the rest were Qatari. More than three quarters of the women (77.4%) were married, while only 1.9% were widowed. Regarding the educational level 43.8% of the women were college graduates, followed by 30.8% who had a secondary degree. Only 5.4% were postgraduates. Most of the studied women were currently not working (62.7%) and a mere 1.5% were manual workers.

Knowledge of breast cancer	Frequency		
	Yes	No	I don't know
Breast cancer is the most common cancer in women	214 (82.3%)	12 (4.6%)	34 (13.1%)
Risk factors of breast cancer			
Inherited genetic mutations	101 (38.8%)	29 (11.2%)	130 (50%)
Being diagnosed previously with breast cancer	117 (45%)	53 (20.4%)	90 (34.6%)
Exposure to radiation	166 (63.8%)	39 (15%)	55 (21.2%)
Oral contraceptives	96 (36.9%)	56 (21.5%)	107 (41.2%)
Obesity after menopause	62 (23.8%)	62 (23.8%)	136 (52.3%)
Early menarche	27 (10.4%)	100 (38.5%)	133 (51.2%)
Family history of breast cancer	176 (67.7%)	37 (14.2%)	47 (18.1%)
Having the first child after the age of 30	32 (12.5%)	83 (31.9%)	145 (55.8%)
Never having children	48 (18.5%)	92 (35.4%)	120 (46.2%)
Post menopausal hormone therapy	100 (38.5%)	24 (9.2%)	136 (52.3%)
Smoking	188 (72.3%)	29 (11.2%)	43 (16.5%)
Signs and symptoms of breast cancer			
Painless breast lump	176 (67.7%)	30 (11.5%)	54 (20.8%)
Pain in the breast	163 (62.7%)	54 (20.8%)	43 (16.5%)
Nipple discharge	134 (51.5%)	38 (14.6%)	88 (33.8%)
Ulceration of the nipple	129 (49.6%)	44 (16.9%)	86 (33.1%)
Early diagnosis of breast cancer			
Early diagnosis improves outcome of treatment	246 (94.6%)	4 (1.5%)	10 (3.8%)
Early detection method of breast cancer is breast self-examination or mammography or during a breast exam by a doctor	214 (82.3%)	9 (3.5%)	37 (14.2%)
Breast self-examination is useful in early diagnosis	236 (90.8%)	4 (1.5%)	18 (6.9%)

Table 2: Frequency distribution of knowledge regarding breast cancer among the studied women (N = 260)

Regarding knowledge about breast cancer, most women knew that breast cancer is the most common cancer in women (82.3%) and that smoking (72.3%), family history of breast cancer (67.7%), exposure to radiation (63.8%) were risk factors of breast cancer. Around 50% of women recognized the signs and symptoms of breast cancer correctly. Regarding the knowledge of early diagnosis of breast cancer, around 90% of women answered the questions correctly, where they had identified that breast self-examination, mammography or clinical breast examination for breast cancer improve the outcome of treatment (Table 2).

Table 3 shows the women's perceived susceptibility regarding breast cancer. Around half (56.2%) of women worry a lot about getting breast cancer, while only 4.3% of them believed they had greater chance of getting breast cancer than others.

Regarding perceived seriousness of breast cancer (Table 4), most women (81.6%) were scared of the thought of breast cancer, and 69.3% of the studied women perceived that breast cancer would endanger their marriages. Sixty five percent of the studied women agreed that they were afraid to even think about breast cancer and more than half of the women (60%) perceived that breast cancer would change their whole lives. On the other hand, more than half of the studied women (67%) did not think that breast cancer was a hopeless disease.

Regarding women's perceived benefits of breast self-examination, almost all of the studied women (90.4%) perceived that they have a lot to gain from doing breast self-examination, and that doing breast self-examination prevents future problems, was perceived by 88.1% of the studied women (Table 5).

The barrier perceived by most women (56.9%) was that they were afraid they would not be able to do breast self-examination properly. With "my family making fun of me if I did BSE" was the least barrier perceived by the participating women, with 7.7% (Table 6).

A percentage of 35.4 of the studied women practiced breast self-examination, but most of them

Perceived susceptibility	Attitude									
	Strongly disagree		Disagree		Neutral		Agree		Strongly agree	
	No.	%	No.	%	No.	%	No.	%	No.	%
My chances of getting breast cancer are great	37	14.2	60	23.1	122	46.9	23	8.8	18	6.9
My physical health makes it more likely that I will get breast cancer	49	18.8	93	35.8	88	33.8	21	8.1	9	3.5
I am more likely to get breast cancer than the average women	52	20	96	36.9	101	38.8	8	3.1	3	1.2
There is a good possibility that I will get breast cancer	32	32	49	18.8	124	47.7	48	18.5	7	2.7
I worry a lot about getting breast cancer	23	23	35	13.5	56	21.5	72	27.7	74	28.5

Table 3: Frequency distribution of the level of agreement of the studied women's perceived susceptibility towards breast cancer (N = 260)

Perceived seriousness	Attitude									
	Strongly disagree		Disagree		Neutral		Agree		Strongly agree	
	No.	%	No.	%	No.	%	No.	%	No.	%
The thought of breast cancer scares me	8	3.1	22	8.5	18	6.9	68	26.2	144	55.4
When I think about breast cancer I feel nervous	26	10	59	22.7	69	26.5	41	15.8	65	25
When I think about breast cancer my heart beats faster	35	13.5	68	26.2	52	20	51	19.6	54	20.8
Breast cancer would endanger my marriage	26	10	40	15.4	65	25	52	20	77	29.6
Breast cancer would endanger my life	5	1.9	25	9.6	50	19.2	74	28.5	106	40.8
Breast cancer would endanger my career	32	12.3	50	19.2	75	28.8	46	17.7	57	21.9
Breast cancer is a hopeless disease	62	23.8	75	28.8	54	20.8	24	9.2	45	17.3
My feelings about myself would change if I had breast cancer	24	9.2	46	17.7	51	19.6	63	24.2	76	29.2
I am afraid to even think about breast cancer	18	6.9	38	14.6	35	13.5	69	26.5	100	38.5
My financial security would be endangered if I got breast cancer	27	10.4	64	24.6	62	23.8	56	21.5	51	19.6
Problems I would experience from breast cancer would last a long time	19	7.3	41	15.8	72	27.7	69	26.5	59	22.7
If I got breast cancer it would be more serious than other diseases	23	8.8	66	25.4	67	25.8	43	16.5	61	23.5
If I had breast cancer my whole life would change	15	5.8	38	14.6	50	19.2	62	23.8	94	36.2

Table 4: Frequency distribution of the level of agreement of the studied women's perceived seriousness of breast cancer (N = 260)

Perceived benefits	Attitude									
	Strongly disagree		Disagree		Neutral		Agree		Strongly agree	
	No.	%	No.	%	No.	%	No.	%	No.	%
Doing breast self-exams prevents future problems for me	6	2.3	9	3.5	16	6.2	48	18.5	181	69.6
I have a lot to gain by doing breast self exam	5	1.9	4	1.5	16	6.2	57	21.9	178	68.5
Breast self exam can help me find lumps in my breast	8	3.1	11	4.2	23	8.8	62	23.8	156	60
If I do monthly breast self exam I may find a lump before it is discovered by regular exams	7	2.7	9	3.5	27	10.4	69	36.5	148	56.9
I would not be so anxious about breast cancer if I did breast self exam monthly	5	1.9	12	4.6	43	16.5	66	25.4	134	51.5

Table 5: Frequency distribution of the level of agreement of the studied women's perceived benefits of breast self-examination (N=260)

Perceived barriers	Attitude					
	Disagree		Neutral		Agree	
	No.	%	No.	%	No.	%
It is embarrassing for me to do breast self exam	173	66.5	21	8.1	66	25.4
Breast examination is emotionally distressing	150	57.7	32	12.3	78	30
Breast self exam can be painful	152	58.5	74	28.1	34	13.1
Breast self exam is time consuming	152	58.5	81	31.2	27	10.4
My family would make fun of me if I did breast self exam	198	76.2	42	16.2	20	7.7
The practice of breast self exam inteferes with my activities	154	59.2	65	25	41	15.8
Doing breast self exam would require starting a new habit, which is difficult	134	51.5	63	24.2	63	24.2
I am afraid I would not be able to do breast self exam properly	72	27.7	40	15.4	148	56.9

Table 6: Frequency distribution of the perceived barriers among the studied women for not practicing breast self-examination (N=260)

performed it once every six month (28.3%) or as they remember (28.3%). Only 22.8% of the women who practiced breast self-examination performed it correctly once every one month (see Figures 1 and 2).

Regarding the relationship between actually practicing breast self examination in relation to the socio-demographic variables among the studied women: Around half of the participating women who were below or equal to the age of 40 practiced BSE, and around one third (41.4%) of the women with college degree or postgraduate degrees practiced BSE more than the other educational levels and those results were statistically significant (Table 7).

More than two thirds of the participating women who practiced BSE, knew the breast cancer signs and symptoms, and it was found to be of statistical significant for all except for pain in the breast (Table 8). Table 9 shows that the participating women who were neutral regarding their susceptibility to breast cancer, practiced breast self examination and it was statistically significant only for "chances of getting breast cancer are great". Moreover, the practice of BSE and

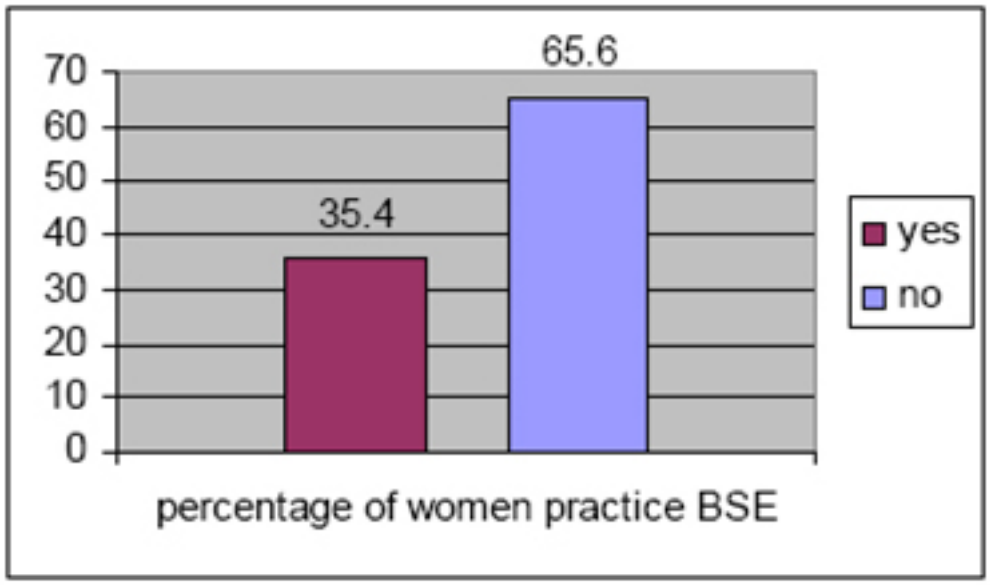

Figure 1: Practice of breast self-examination among the studied women N=260)

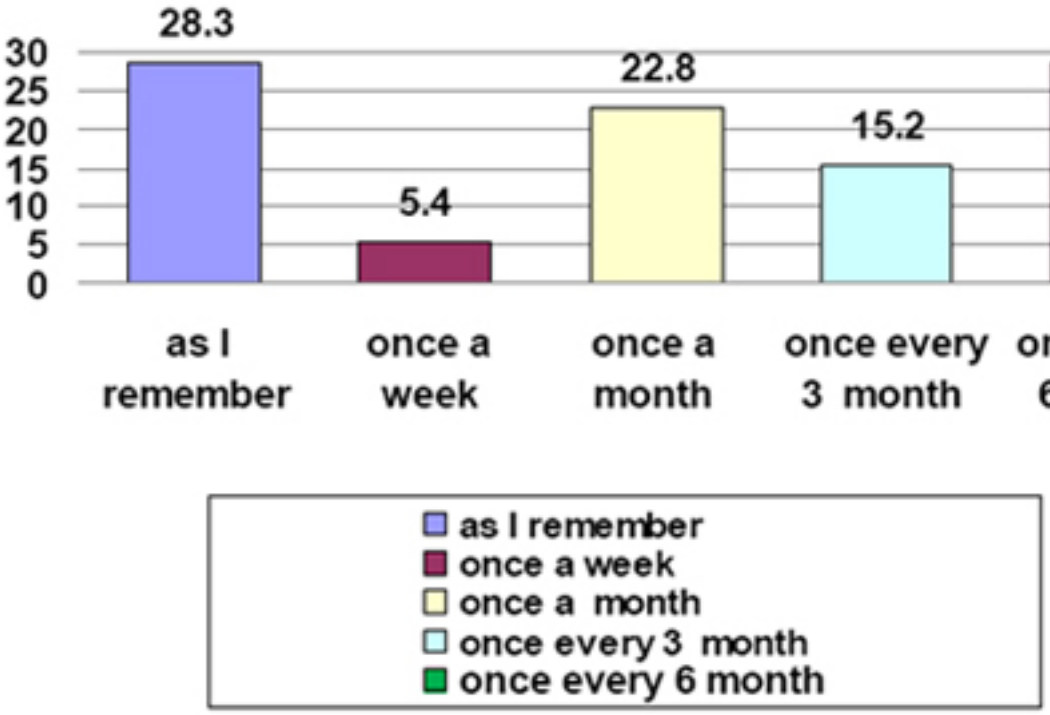

Figure 2: Frequency of practicing breast self-examination among the participating women (N=92)

the perceived seriousness of breast cancer among the participating women and relations were statistically not significant (Table 10).

It was found that women who perceived the benefits of BSE, practiced it, and it was statistically significant for most of the items (e.g. prevents future problems, a lot to gain by doing self breast examination, find lumps in my breast and monthly breast self exam I may find a lump before it is discovered by regular exams) (Table 11). It was also found that the studied women who practiced BSE disagreed that BSE was time consuming and this result was statistically significant (Table 12).

Discussion

The present study may provide new insights into the knowledge, attitude and practice of women in Qatar towards breast cancer and breast self-examination.

Understanding breast cancer risk factors, signs and symptoms and the early methods of diagnosis, affects the early detection and management of the condition.

Most of the participating women knew that breast cancer is the most common cancer among women (82.3%). The relatively good knowledge of women in Qatar might be explained by the high prevalence of breast cancer in Qatar accounting for 29.9% of all female cancers, with an incidence rate of 13.3% in 2002 [6]. Other factors explain that including conduction of national public awareness breast cancer campaigns by governmental and non-governmental organizations and the existing breast cancer screening program for early detection of cancer aimed at women [24].

Socio-demographic variables	Practise of BSE		Total	Sig.*
	Yes	No		
	Freq. (%)	Freq. (%)		
Age				
20-30	30 (26.3%)	84 (73.7%)	114 (100%)	0.02
31-40	37 (46.2%)	55 (59.8)	92 (100%)	
≥ 40	25 (46.3%)	29 (53.7%)	54 (100%)	
Nationality				
Qatari	43 (34.7%)	81 (65.3%)	124 (100%)	0.82
Non Qatari	49 (36%)	87 (64%)	136 (100%)	
Marital status				
Single	10 (25%)	30 (75%)	40 (100%)	0.26
Married	74 (36.6%)	128 (63.4%)	202 (100%)	
Divorced/widowed	8 (44.4%)	10 (55.6%)	18 (100%)	
Educational level				
Primary/preparatory	20 (38.5%)	32 (61.5%)	52 (100%)	0.03
Secondary	19 (23.8%)	61 (76.3%)	80 (100%)	
College/postgraduate	53 (41.4%)	75 (58.6%)	128 (100%)	
Relatives with breast cancer				
Yes	11 (35.5%)	20 (64.5%)	31 (100%)	0.9
No	81 (35.4%)	148 (64.6%)	229 (100%)	

*p value of Chi square test

Table 7: The practice of breast self-examination among the studied women and their socio-demographic variables (N=260)

Knowledge of breast cancer signs and symptoms	Practise of BSE		Sig.*
	Yes	No	
	No. (%)	No. (%)	
Painless breast lump			
Yes	71 (77.2%)	105 (62.5%)	0.01
No	11 (12%)	19 (11.3%)	
I don't know	10 (10.9%)	44 (26.2%)	
Pain in the breast			
Yes	65 (70.7%)	98 (58.3%)	0.06
No	18 (19.6%)	36 (21.4%)	
I don't know	9 (9.8%)	34 (20.2%)	
Nipple discharge			
Yes	63 (68.5%)	71 (42.3%)	<0.01
No	8 (8.7%)	30 (17.9%)	
I don't know	21 (22.8%)	67 (39.9%)	
Ulceration in the nipple			
Yes	59 (64.1%)	71 (42.3%)	0.003
No	13 (14.1%)	31 (18.5%)	
I don't know	20 (21.7%)	66 (39.3%)	
Total	**92 (100%)**	**168 (100%)**	

*p value of Chi square test

Table 8: The practice of BSE and the knowledge of signs and symptoms of breast cancer (N=260)

Perceived susceptibility	Practise of BSE		Total	Sig.*
	Yes	No		
	No. (%)	No. (%)		
My chances of getting breast cancer are great				
Strongly agree/agree	6 (14.6%)	35 (85.4%)	41 (100%)	0.002
Neutral	54 (44.3%)	68 (55.7%)	122 (100%)	
Strongly disagree/disagree	32 (33%)	65 (67%)	97 (100%)	
My physical health makes it more likely that I will get breast cancer				
Strongly agree/agree	6 (20%)	24 (80%)	30 (100%)	0.118
Neutral	36 (40.9%)	52 (59.1%)	88 (100%)	
Strongly disagree/disagree	50 (35.2%)	92 (64.8%)	142 (100%)	
I am more likely to get breast cancer than the average woman				
Strongly agree/agree	3 (27.3%)	8 (72.7%)	11 (100%)	0.74
Neutral	38 (37.6%)	63 (62.4%)	101 (100%)	
Strongly disagree/disagree	51 (34.5%)	97 (65.5%)	148 (100%)	
There is a good possibility that I will get breast cancer				
Strongly agree/agree	18 (32.7%)	37 (67.3%)	55 (100%)	0.71
Neutral	47 (37.9%)	77 (62.1%)	124 (100%)	
Strongly disagree/disagree	27 (33.3%)	54 (66.7%)	81 (100%)	
I worry a lot about getting breast cancer				
Strongly agree/agree	51 (34.9%)	95 (65.1%)	146 (100%)	0.89
Neutral	19 (33.9%)	37 (66.1%)	56 (100%)	
Strongly disagree/disagree	22 (37.9%)	36 (62.1%)	58 (100%)	

*p value of Chi square test

Table 9: The practice of BSE and the perceived susceptibility to breast cancer among the participating women (N=260)

The most identified risk factors by the participating women in the present study were smoking (72.3%), family history of breast cancer (67.7%), and exposure to radiation (63.8%). The relatively high percentage of women able to correctly identify these risk factors of breast cancer could be explained by the fact that those risk factors are general ones related to cancers in general.
Similarly, in another study in UK, regarding women's knowledge and belief about breast cancer among British women [25], it was noted that 90%, 70%, and 60%, were able to identify the risk of breast cancer associated with family history, previous history of breast cancer and smoking, respectively.

Conversely, a study in KSA showed that women had deficits regarding knowledge of breast cancer risk factors [26]. Agreeing with a study conducted in Nigeria [27], only 27% of nurses in a tertiary health institution could identify up to 3-4 risk factors for breast cancer.

Knowledge of symptoms of breast cancer is important in ensuring that women would present early at health care centres for diagnosis and treatment. In the present study, more than half of the women recognized the signs and symptoms of breast cancer correctly. 'Painless breast lump' was the most reported sign of breast cancer identified by women (67.7%). That might be explained by the fact that generally a painless breast lump is the most common symptom of breast cancer known by women. A study conducted in Iran, showed 44% of women knew that a painless breast lump was a symptom of breast cancer [28]; a lower frequency than our study. Another study from the UK indicated that 70% of women were well aware of 'painless lump' and able to identify this sign in their BSE [25].

Women's limited knowledge about breast cancer has been identified elsewhere in developed (USA) and developing countries (Egypt, Appalachian) [29-31].

Around 90% of the participating women had identified that BSE, mammography or clinical breast examination are early methods of detecting breast cancer and can improve the outcome of treatment. This reflects that the participating women knew that breast cancer is not a hopeless disease and it can be controlled if detected and managed early.

However, this contrasts with a previous study from KSA, which found that only 30.3% of the women had heard about BSE and 18.7% reported they practiced it [32]. In another study in a developing country only 43.2% were aware of BSE as a screening tool for breast cancer [33]. The HBM has been used extensively

Perceived seriousness	Practise of BSE		Total	Sig.*
	Yes	No		
	No. (%)	No. (%)		
The thought of breast cancer scares me				
Strongly agree/agree	76 (35.8%)	136 (64.2%)	212 (100%)	0.78
Neutral	5 (27.8%)	13 (72.2%)	18 (100%)	
Strongly disagree/disagree	11 (36.7%)	19 (63.3%)	30 (100%)	
When I think about breast cancer I feel nervous				
Strongly agree/agree	35 (33%)	71 (67%)	106 (100%)	0.56
Neutral	28 (40.6%)	41 (59.4%)	69 (100%)	
Strongly disagree/disagree	29 (34.1%)	56 (65.9%)	85 (100%)	
When I think about breast cancer my heart beats faster				
Strongly agree/agree	36 (34.3%)	69 (65.7%)	105 (100%)	0.97
Neutral	22 (42.3%)	30 (57.7%)	52 (100%)	
Strongly disagree/disagree	34 (33%)	69 (67%)	103 (100%)	
Breast cancer would endanger my marriage				
Strongly agree/agree	38 (29.5%)	91 (70.5%)	129 (100%)	0.12
Neutral	28 (43.1%)	37 (56.9%)	65 (100%)	
Strongly disagree/disagree	36 (39.4%)	40 (60.6%)	66 (100%)	
Breast cancer would endanger my life				
Strongly agree/agree	59 (32.8%)	121 (67.2%)	180 (100%)	0.33
Neutral	22 (44%)	28 (56%)	50 (100%)	
Strongly disagree/disagree	11 (36.7%)	19 (63.3%)	30 (100%)	
Breast cancer would endanger my career				
Strongly agree/agree	33 (32%)	70 (68%)	103 (100%)	0.42
Neutral	31 (41.3%)	44 (58.7%)	75 (100%)	
Strongly disagree/disagree	28 (34.1%)	54 (65.9%)	82 (100%)	
Breast cancer is a hopeles disease				
Strongly agree/agree	20 (29%)	49 (71%)	69 (100%)	0.42
Neutral	21 (38.9%)	33 (61.1%)	54 (100%)	
Strongly disagree/disagree	51 (37.2%)	86 (62.8%)	137 (100%)	
My feelings about myself would change if I got breast cancer				
Strongly agree/agree	54 (38.8%)	85 (61.2%)	139 (100%)	0,07
Neutral	11 (21.6%)	40 (78.4%)	51 (100%)	
Strongly disagree/disagree	27 (38.6%)	43 (61.4%)	70 (100%)	
Problems I would experience from breast cancer would last a long time				
Strongly agree/agree	42 (32.8%)	86 (67.2%)	128 (100%)	0.62
Neutral	26 (36.1%)	46 (63.9%)	72 (100%)	
Strongly disagree/disagree	24 (40%)	36 (60%)	60 (100%)	
If I got breast cancer it would be more serious than other diseases				
Strongly agree/agree	34 (32.7%)	70 (67.3%)	104 (100%)	0.72
Neutral	24 (35.8%)	43 (64.2%)	67 (100%)	
Strongly disagree/disagree	34 (38.2%)	55 (61.8%)	89 (100%)	

Table 10: The practice of BSE and the perceived seriousness to breast cancer among the participating women (N=260)

Perceived benefits	Practise of BSE		Total	Sig.*
	Yes	No		
	No. (%)	No. (%)		
Doing breast self exams prevents future problems for me				
Strongly agree/agree	86 (37.6%)	143 (62.4%)	229 (100%)	0.04
Neutral	1 (6.3%)	15 (93.8%)	16 (100%)	
Strongly disagree/disagree	5 (33.3%)	10 (66.7%)	15 (100%)	
I have a lot to gain by doing breast self exam				
Strongly agree/agree	88 (37.4%)	147 (62.6%)	235 (100%)	0.04
Neutral	1 (6.3%)	15 (93.8%)	16 (100%)	
Strongly disagree/disagree	3 (33.3%)	6 (66.7%)	9 (100%)	
Breast self exam can help me find lumps in my breast				
Strongly agree/agree	85 (39%)	133 (61%)	218 (100%)	0.004
Neutral	1 (4.3%)	22 (95.7%)	23 (100%)	
Strongly disagree/disagree	6 (31.6%)	13 (68.4%)	19 (100%)	
If I do monthly breast self exam I may find a lump before it is discovered by regular exams				
Strongly agree/agree	85 (39.2%)	132 (60.8%)	217 (100%)	0.001
Neutral	1 (3.7%)	26 (96.3%)	27 (100%)	
Strongly disagree/disagree	6 (37.5%)	10 (62.5%)	16 (100%)	
I would not be so anxious about breast cancer if I did breast self exam regularly				
Strongly agree/agree	76 (35.4%)	124 (62%)	200 (100%)	0.09
Neutral	9 (20.9%)	34 (79.1%)	43 (100%)	
Strongly disagree/disagree	7 (41.2%)	10 (58.8%)	17 (100%)	

*p value of Chi square test

Table 11: The practice of BSE and the perceived benefits of practicing BSE among the participating women (N=260)

to organize theoretical predictors of preventive health actions; including women's perceptions of breast cancer susceptibility and seriousness, women's perceptions of the benefits of BSE and barriers for not performing it. Mostly women who perceived they were susceptible to breast cancer and believed that breast cancer is a serious disease are more likely to perform BSE. In addition, women are more likely to perform BSE if they encounter few barriers, believe BSE has many benefits, and are confident that it is able to detect abnormal changes [17, 19].

In the present study, the majority of the participating women did not perceive that they were susceptible to breast cancer, most women tended to disagree or were neutral about their susceptibility towards breast cancer with a mean and ± standard deviation of 2.75± 0.7. Around half (56.2%) of women worry a lot about getting breast cancer, where their worries might come from fear of the consequences of the disease such as breast loss, disfigurement and the problem involved with coping with it. Also some kind of stigma may be attached to having breast cancer [34]. Similarly, in studies conducted in South Africa and Hong Kong, it was shown that about half of the women worried about getting breast cancer [35-36]. When compared to a study conducted in the UK, it was shown that 28% of the studied women worried a lot about getting breast cancer. But as proposed by Miller and colleagues, the perceived susceptibility of breast cancer has less influence on BSE if practiced habitually [37].

Also the participating women in the present study, agreed to the seriousness of the disease with a mean ±standard deviation of 3.42± 0.8; most of the women (81.6%) were scared of the thought of breast cancer.

This might be explained that women are afraid of the suffering and the pain through the course of breast cancer management and later on the surgery which involves loss of a body part. A percentage of 69.3 of the studied women perceived that breast cancer would endanger their marriages where the women's sexual identity and body image would be affected [38]. Sixty five percent of studied women agreed that they were afraid to even think about breast cancer and more than half of them (60%) perceived that breast cancer would change their whole lives. On the other hand more than half of the studied women (67%) didn't think that breast cancer was a hopeless disease.

Confirmingly, a study conducted in South Africa revealed that 99% of the women perceived the seriousness of

Perceived barriers	Practise of BSE		Total	Sig.*
	Yes	No		
	No. (%)	No. (%)		
It is embarrassing for me to do monthly breast self exam				
Strongly agree/agree	30 (45.5%)	36 (54.5%)	66 (100%)	
Neutral	6 (28.6%)	15 (71.4%)	21 (100%)	0.11
Strongly disagree/disagree	56 (32.4%)	117 (67.6%)	173 (100%)	
Breast self examination is emotionally distressing				
Strongly agree/agree	54 (36%)	96 (64%)	150 (100%)	
Neutral	8 (25%)	24 (75%)	32 (100%)	0.39
Strongly disagree/disagree	54 (36%)	96 (64%)	150 (100%)	
Breast self exam can be painful				
Strongly agree/agree	10 (29.4%)	24 (70.6%)	34 (100%)	
Neutral	23 (31.5%)	50 (68.5%)	73 (100%)	0.50
Strongly disagree/disagree	59 (38.5%)	94 (64%)	153 (100%)	
Breast self exam is time consuming				
Strongly agree/agree	7 (25.9%)	20 (74.1%)	27 (100%)	
Neutral	21 (25.9%)	60 (74.1%)	81 (100%)	0.02
Strongly disagree/disagree	64 (42.1%)	88 (57.9%)	152 (100%)	
My family would make fun of me if i did breast self exam				
Strongly agree/agree	4 (20%)	16 (80%)	20 (100%)	
Neutral	16 (38.1%)	26 (61.9%)	42 (100%)	0.31
Strongly disagree/disagree	72 (26.4%)	126 (63.6%)	198 (100%)	
The practice of breast self exam interferes with my activities				
Strongly agree/agree	14 (34.1%)	27 (65.9%)	41 (100%)	
Neutral	22 (33.8%)	43 (66.2%)	65 (100%)	0.92
Strongly disagree/disagree	56 (36.4%)	98 (63.3%)	154 (100%)	
Doing breast self exam would require starting a new habit, which is difficult				
Strongly agree/agree	17 (27%)	46 (73%)	63 (100%)	
Neutral	21 (33.3%)	42 (66.7%)	63 (100%)	0.17
Strongly disagree/disagree	54 (40.3%)	80 (59.7%)	134 (100%)	
I am afraid I would not be able to do breast self exam properly				
Strongly agree/agree	55 (37.2%)	93 (62.8%)	148 (100%)	
Neutral	10 (25%)	30 (75%)	40 (100%)	0.32
Strongly disagree/disagree	27 (37.5%)	45 (62.5%)	72 (100%)	

*p value of Chi square test

Table 12: The practice of BSE and the perceived barriers for practicing BSE among the participating women (N=260)

the disease [35]. Similarly, in a study in a developed country it was shown that 93% of the studied women perceived the seriousness of breast cancer [39].

Around 57% of the participating women in the present study perceived that “afraid of not being able to do breast self exam properly” was the most perceived barrier for not practicing BSE. A study from Turkey showed that theoretical education on breast cancer awareness and BSE training were effective [28, 40]. Also a study in South Africa showed that the highest perceived barrier for not performing BSE was fear of being diagnosed with breast cancer 87%, followed by insufficient knowledge 20% [35].

Most of the participating women in the present study, perceived the benefits of BSE with a mean ±standard deviation of 4.37±0.8. That might be explained by the frequent breast self examination campaigns conducted in the country.

A cross-sectional study was conducted to examine the knowledge of breast cancer, attitudes toward

BSE, the majority believed that it is not difficult or time consuming or troublesome (63% and 72%, respectively) [28].

In the present study, although 90.8% of the participating women knew that BSE is useful in detection and an early detection method of breast cancer, the percentage of women actually practicing BSE was relatively low, 35%; and only 23% of the participating women who practiced BSE performed it correctly once every month.

In a study conducted among Turkish women [41], although 72.1% of the participants reported having knowledge of BSE, only 40.9% of the women practiced it. Moreover, in Iran [28] 17% of whole sample indicated that they were performing regular monthly BSE.

Lower rates of BSE performance have been reported from other developing countries [32, 33, and 42]. Comparing the figures with that of developed countries (USA) suggests that there are differences. It has been shown that 75% of the women conduct BSE. [43].

In the present study, only 23% of the participating women who practiced BSE performed it correctly once every month. This shows that women, who actually practice BSE, do not know when to do it, and have lack of knowledge regarding the proper way of practicing BSE.

Similarly, only 12% of the participants practiced BSE monthly in a study carried out on South-Asian immigrants to Canada [44]. This rate is also within the range of previous studies in UAE, KSA and Egypt [45-47].

In the present study, only age and educational level were proven to be of statistical significance when relating them to BSE practice. Most of the women who practiced BSE (72.8%) were below or equal to the age of 40.

That might be explained by the fact that young women are more in contact with programs and campaigns than older women. Furthermore, it has been argued that older adults, who may have a number of symptoms of other illnesses, should not be expected to seek help for symptoms that are not causing them any pain or that have little effect on their functioning [48]. Similarly, a previous study done in UAE [86] reported that BSE was commonly practiced by younger and highly educated women.

In contrast to these study findings, in Jordan [49], it was found that the majority of the older women performed BSE on a regular basis. In another study conducted in Iran, it was shown that the practice of BSE was significantly associated with age, the level of education, personal history of breast problems, and knowledge of how to examine breasts [50].

Conclusion

Many women had knowledge about risk factors, signs and symptoms of breast cancer and the early detection methods of breast cancer. Seriousness of breast cancer and the benefits of BSE were perceived by most of the participating women, while susceptibility to breast cancer was not. One third of the studied women practiced BSE. The most frequent barrier identified by the participating women for not practicing BSE was their fear of not being able to do BSE properly.

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Assessment of self-reported practice patterns regarding treatment of dyslipidemia among physicians under training in family medicine in Ismailia governorate - Egypt

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Abstract

Introduction: Cardiovascular diseases are the leading cause of death and disability in most societies. These trends are potentially reversible with the optimal assessment and management of cardiovascular disease risk factors, of which dyslipidemia is prominent. The aim of this study is to improve family physicians' knowledge, beliefs and practice towards dyslipidemia. The assessment of their practice is the first step in this regard.

Subjects and methods: This study was a cross sectional-descriptive study. Its target population was physicians under training in family medicine in Ismailia governorates who were trainees in the Family Medicine Department in the Faculty of Medicine, Suez Canal University.

The total number of the sample was 114 physicians. The study population was subjected to a structured questionnaire derived from a study published in the Journal of the American Board of Family Medicine and modified according to a pilot study. Scoring system was done by expert opinion. If a physician's score was >60% it is a good result and if it was < 60% it is poor.

Results: Results of the current study showed that among studied family physicians 87.7 % had a poor practice score regarding dyslipidemia screening and assessment and 68.4% of them had a poor practice score regarding dyslipidemia management. 45.6% of studied family physicians had read the NCEP ATP III guidelines and 25% of them had read them carefully.

Conclusion: This study demonstrates that not all recommendations of the NCEP ATP III guidelines have been adopted in clinical practice by most studied family physicians. It also demonstrates the large degree of practice variation regarding dyslipidemia assessment and management.

Introduction

Cardiovascular diseases are the leading cause of death and disability in the United States and most societies (1). The prevalence of cardiovascular disease is now increasing, presumably due to the aging of the population and the near epidemic rise in the prevalence of obesity and diabetes mellitus (2). The largest proportion of cardiovascular diseases is represented by coronary artery, cerebral and peripheral vascular disease.

During the past 3 decades efficacious strategies have been developed for primary and secondary prevention of these diseases (3). These trends are potentially reversible with optimal assessment and management of cardiovascular disease risk factors, of which dyslipidemia is prominent (4).

Well designed clinical trials have demonstrated the efficacy of pharmacologic treatment of dyslipidemia in men and women, both middle-aged and older, those with established cardiovascular disease and those without (5), in all racial groups, diabetics, smokers, and hypertensive subjects (6). The National Cholesterol Education Program (NCEP) developed consensus guidelines for treatment based on this new scientific evidence and released the third report of the expert panel on the detection, evaluation, and treatment of high blood cholesterol in adults in April of 2001 Adult Treatment Panel [ATP] III (7), and proposed modifications based on new clinical trial evidence in July 2004 (8).

Subjects and Methods

This study was a cross sectional-descriptive study. Target population was physicians under training in family medicine in Ismailia governorates who were trainees in

		Number	%
Frequency of CHD risk factor assessment	Never	7	6.1%
	Rarely	19	16.7%
	Occasionally	47	41.2%
	Usually	31	27.2%
	Always	10	8.8%
Frequency of usage of CHD risk calculator	Never	66	57.8%
	Rarely	19	16.7%
	Occasionally	23	20.2%
	Usually	5	4.4%
	Always	1	0.9%

Table 1: Self-reported dyslipidemia screening and assessment practice

the Family Medicine Department in the Faculty of Medicine, Suez Canal University; and included physicians under training for a Master degree, or Diploma degree in family medicine, and physicians under training in the course of Egyptian fellowship of family medicine. Our sample size was a comprehensive sample for all physicians working or training in family practice centers of Suez Canal University(54 physicians) and Egyptian fellowship in Ismailia (60 physicians). The total number of the sample was 114 physicians. The study population were subjected to a structured questionnaire (9), which was modified according to a pilot study on 10 physicians (not included in the results). It includes the following items:

A) Socio-demographic characteristics of the family physicians: age, gender, experience, years in practice and practice location

B) Multiple choices for the following:
1- Self-reported practice patterns of family physicians which include:

a) Self-reported dyslipidemia assessment and screening practices, b) Self-reported dyslipidemia management practices. Scoring system was done for (a) and (b) by expert opinion. If physician's practice score is >60% it is a good result and if it is < 60% it is poor.

So in part (a) the physician's score was good if he answered at least 4 correct answers from the 6 questions, and in part (b) the physician's score was good if he answered at least 5 correct answers from the 9 questions. Correct answers are according to NCEP ATP III guidelines (9).

2- Beliefs and concordance with NCEP ATP III guidelines (7), and its update form (8).

C) Includes open ended questions about the greatest barriers faced by physicians in assessing patients for coronary heart disease risk and the greatest barriers faced by physicians in treating patients with dyslipidemia.

Results

A total of 114 family physicians were enrolled in the study. Females were 64.1% and males were 35.9%. Among studied family physicians 52.6 % were under training in fellowship, 28.1% in Master's degree and 19.3% in Diploma degree. The location of practice among them was urban (61.4%) and rural (38.6%).

Table 1 shows that thirty six percent usually and always assess CHD risk factors in their patients. Usage of CHD risk calculator was usual and always in 5.3% of physicians and never used in 57.8%.

Table 2 (next page) shows that frequency of seeing patients with uncontrolled dyslipidemia 4-6 visits/ year was an option selected by 40.4% of the physicians and seeing patients with controlled dyslipidemia 2-4 visits/year was marked by 38.6% of respondents. 38.6% of family physicians had not prescribed lipid lowering drugs before. 25.4% prescribed a statin routinely for patients with established CHD.

Table 3 (next page) shows that 45.6 % of studied family physicians had read the NCEP ATP III guidelines. 73.7% agree with the ATP III guideline to screen for dyslipidemia in early adulthood; 79.8 % agree to treat CHD equivalent risk patient to an LDL goal of < 100 mg/dl.

Table 4 (next page) shows a statistically significant relationship between reading of NCEP ATP III guidelines and physicians' management score. 23.7% of physicians had a good score and had read the NCEP ATP III guideline.

Figure 1 (page 35) shows that 12.3 % of studied family physicians had a good score regarding dyslipidemia screening and assessment practices.

Figure 2 (page 35) shows that 31.6% of the studied family physicians had a good score regarding dyslipidemia management practice.

Figure 3 (page 35) shows that barriers to assessment of coronary heart disease risk in their patients included adherence of the patients which had been reported by the highest percentage of physicians (80.7%), followed by the cost of investigations (68.4%), knowledge of the physician (36.8%), system factors (36.8%), length of consultation with physician (21.9%) and doctor patient relationship(17.5%).

		Number	%
Frequency of seeing patients with uncontrolled dyslipidemia	< 4 visits/year	22	19.3%
	4 visits/year	25	21.9%
	4-6 visits/year	46	40.4%
	> 6 visits/years	21	18.4%
Frequency of seeing patients with controlled dyslipidemia	< 2 visits/year	31	27.2%
	2 visits/year	31	27.2%
	2-4 visits/year	44	38.6%
	> 4 visits/years	8	7%
Prescribing lipid lowering drugs before	Yes	70	61.4%
	No	44	38.6%
Prescribing statin routinely for patients with established CHD	Yes	29	25.4%
	No	85	74.6%

Table 2: Self-reported dyslipidemia management practice

		Number	%
Reading the NCEP ATP III guidelines	Yes	52	45.6%
	No	62	54.4%
Agreement with the ATP III guideline to screen for dyslipidemia in early adulthood	Yes	84	73.7%
	No	30	26.3%
Agreement to treat CHD equivalent risk patient to an LDL goal of < 100 mg/dl	Yes	91	79.8%
	No	23	20.2%

Table 3: Beliefs and concordance with NCEP ATP III guideline

		Dyslipidemia management practice score				p-value
		Good (n = 36)		Poor (n = 78)		
		No.	%	No.	%	
Reading of NCEP ATP III guideline	Yes	27	23.7%	25	21.9%	(X2 = 16.63) 0.001*
	No	9	7.9%	53	46.5%	

Table 4: Relation between reading of NCEP ATP III guideline recommendations and physicians' score in dyslipidemia management practice

Figure 4 (page 36) shows that barriers to treatment of dyslipidemia included adherence of the patients which had been reported by the highest percentage of physicians (84.2%), followed by the cost of drugs (73.7%), knowledge of the physician (44.7%), health habits (43.9%), length of consultation (14%), system factors (7.9%), and doctor patient relationship (7%).

Discussion

The current study assessed self-reported practice patterns of family physicians regarding dyslipidemia assessment and management based on National Cholesterol Education Program (NCEP) Adult Treatment Panel (ATP) III guideline recommendations and detected family physicians' reported barriers to the optimal assessment of coronary heart risk and treatment of dyslipidemia.

Self reported dyslipidemia screening and assessment practice showed that among studied family physicians less than half of the studied physicians usually and always assess CHD risk factors in their patients. This was inconsistent with what was reported by the study of Eaton et al., 2006 (9) who studied a random sample (1200 physicians) of members of the American Academy of Family Physicians in April 2004. They reported that an overwhelming

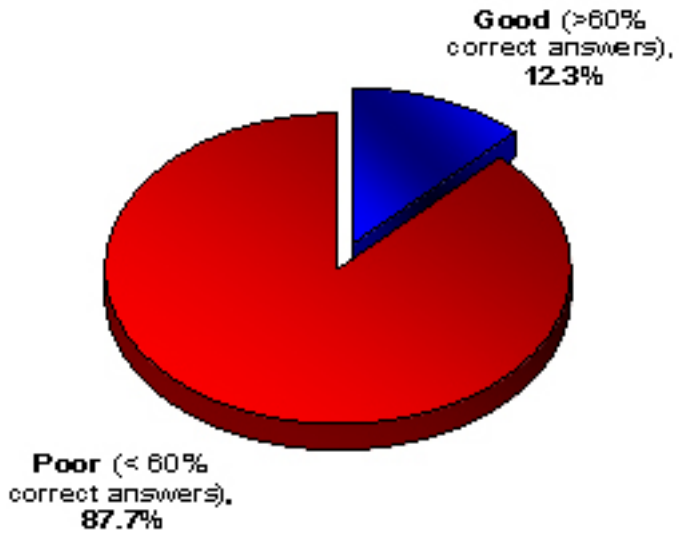

Figure 1: Physicians' dyslipidemia screening and assessment practice score

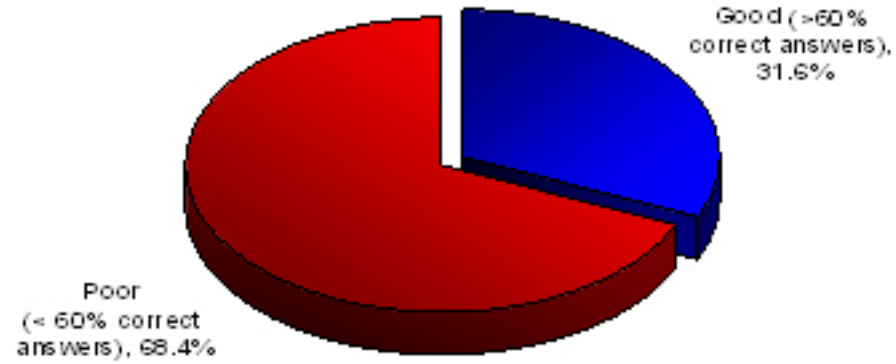

Figure 2: Physicians' dyslipidemia management practice score

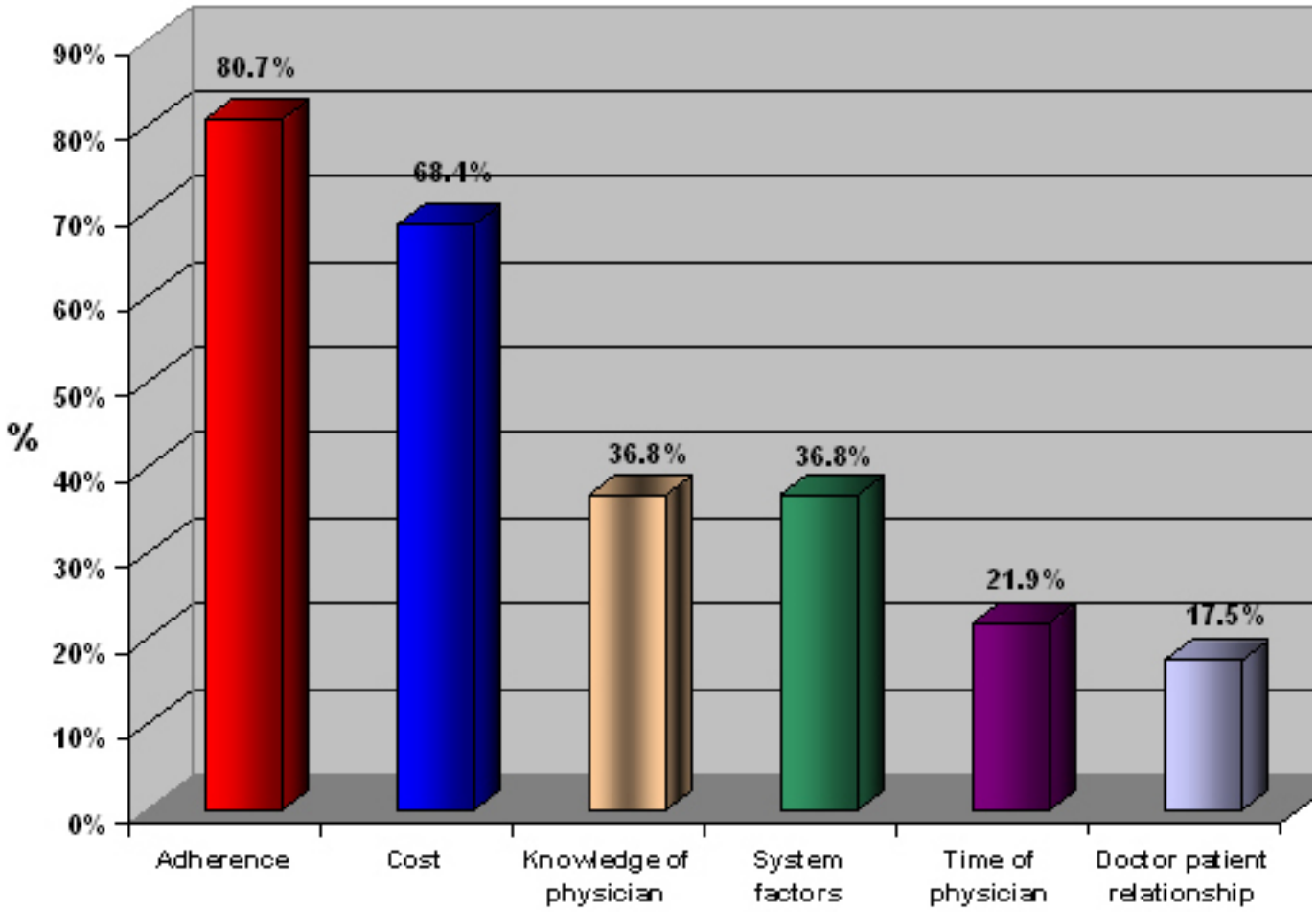

Figure 3: Barriers to assessment of coronary heart disease risk in their patients

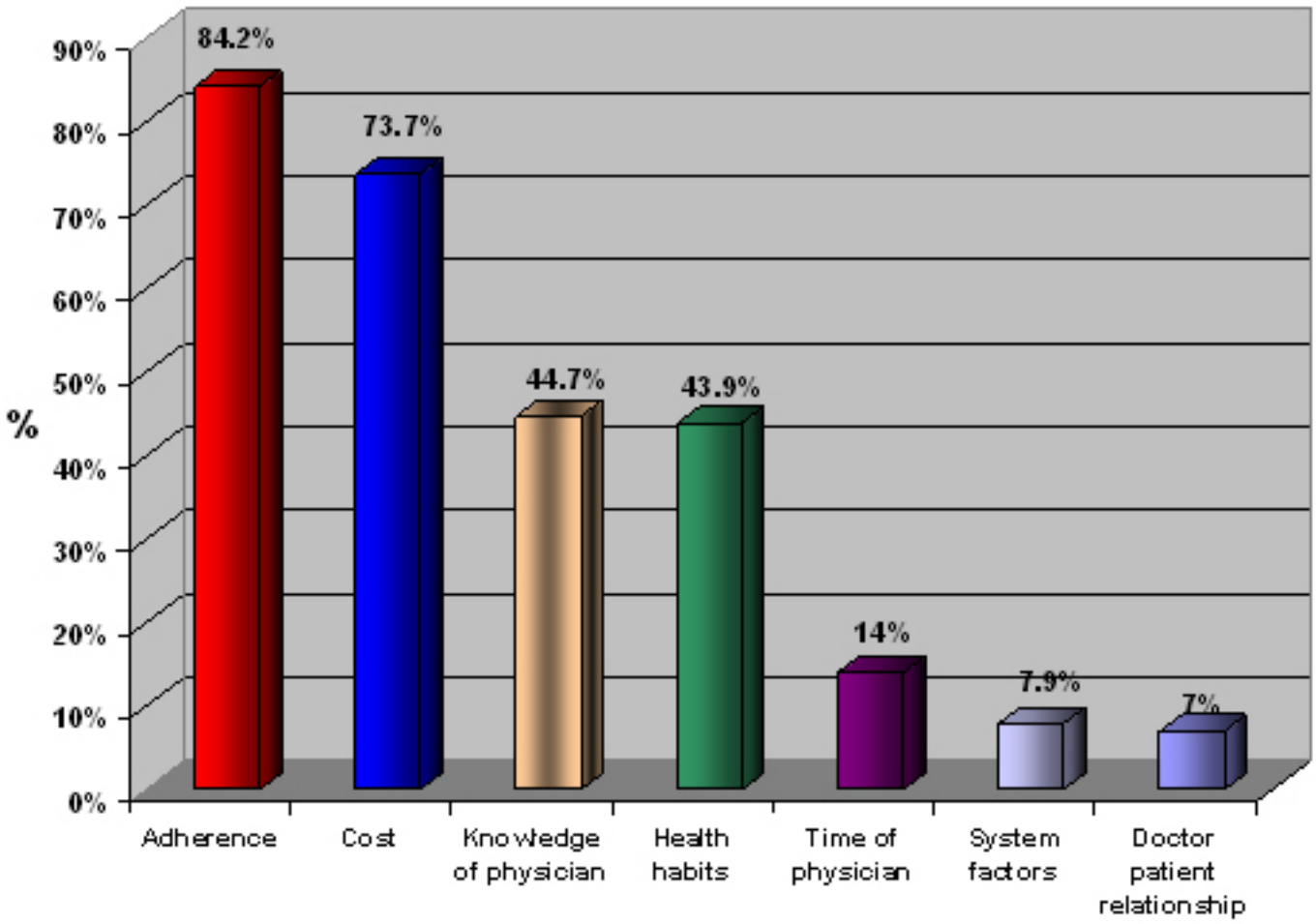

Figure 4: Barriers to treatment of dyslipidemia

majority of family physicians are reported as "usually" or "always" assessing for cardiovascular disease risk factors using a history and a lipid profile. This difference in results may be due to different protocols, methods of learning, years of practice experience and sample size.

The present study is consistent with the study of Monroe et al., 1998 (10) which was a continuous cross-sectional survey using a national probability sample of US physicians' office practices in which a national comparison of family physicians, general internists, and cardiologists was done . Records of 33,795 patient visits to 1354 physicians were reviewed to find out whether the physicians reported cholesterol testing, cholesterol counseling, and charting of patient use of lipid-lowering medications. It showed that cholesterol test was reported by (23.5 %) of family physicians, (43.5%) of internists, and (13.1%) of cardiologists. CHD risk calculator was never used in most studied family physicians. These results are matched with findings of the study of Eaton et al., 2006 (9). This similarity may be due to lack of adherence to the guideline recommendations by physicians in both studies.

12.3 % of studied family physicians had a good practice score according to the NCEP ATPIII guidelines recommendations regarding dyslipidemia screening and assessment practice. This is consistent with the study of Eaton et al., 2006 (9) as it showed that many aspects of the NCEP ATPIII guidelines have not yet penetrated into self-reported clinical practice. It is also consistent with the study of Candrilli and Mackell, 2004 (11) which reported that the NCEP ATP III treatment guidelines have had a significant effect on the prevalence of dyslipidemia in US elderly persons aged 65 years and older. However, there is still a gap in diagnosing and treating to target levels in elderly patients with dyslipidemia.

Self-reported dyslipidemia management practice among studied family physicians showed that frequency of seeing patients with uncontrolled dyslipidemia at 4-6 visits/year and seeing patients with controlled dyslipidemia 2-4 visits/year were not practiced by most of studied physicians. These findings were matched with findings of the study of Eaton et al., 2006 (9).

In the present study, 38.6% of family physicians did not prescribe lipid lowering drugs before and 61.4% did. This is inconsistent with the study of Monroe et al., 1998 (10) in which percentages of reported lipid-lowering medication prescriptions were only 13.4 % for family physicians. This difference may be due to time factors as that study was done in 1998 while NCEP was released in 2001. The present study found that most studied physicians did not prescribe a statin routinely for patients with established CHD. This is totally inconsistent with what was reported in the study of Eaton et al., 2006 (9). It was

reported that approximately all family physicians prescribe statin medications routinely for patients with established coronary heart disease. This was also not matched with the result of the study of Mosca et al., 2005 (12) which was an internet study of 300 primary care physicians, and the usage of pharmacotherapy for high cardiovascular disease risk patients was recommended in over nearly all of the cases by primary care physicians. The difference between the results of the current study and previously mentioned studies may be due to high socioeconomic levels of their patients. This makes the lipid lowering drugs available to them or due to the high experience of the specialized physicians in these studies, inconsistent with physicians under training in the current study.

31.6% of studied family physicians had a good score while 68.4% of them had a poor score according to the NCEP ATPIII guidelines recommendations regarding dyslipidemia management practice. This is consistent with the study of Eaton et al., 2006 (9) as it showed that many aspects of the NCEP ATPIII guidelines have not yet penetrated into self-reported clinical practice. In the present study the score of studied physicians regarding dyslipidemia management practice is better than their score in assessment and screening practice. This may be due to many physicians having more concern towards treatment of the disease than towards its prevention.

Beliefs and concordance with NCEP ATP III guidelines showed that most of the studied family physicians had not read the NCEP ATP III guidelines. This disagreed with what was reported with the study of Eaton et al., 2006 (9) which found that most respondents had heard of the ATP III guidelines. This is also inconsistent with the study of Pasternak et al., 2004 (13) which was an internet survey commissioned by the National Lipid Association of Physicians which found that most physicians surveyed reported being very familiar with the NCEP guidelines, and most of them felt that they adhered to them. The present study was not matched with the study of Mosca et al., 2005 (12) which found that nearly all physicians were aware of the ATP III guidelines. This difference may be due to the importance of applying new guidelines and evidence based medicine in western societies. It agreed with the study of Leiter et al., 2004 (14) which reported that about half of physicians follow NCEP guidelines. This similarity may be due to the presence of other guidelines towards diabetic dyslipidemia management such as ADA guidelines recommendations which are followed by 42% of physicians in that study.

In the present study, most physicians agree with the ATP III guideline to screen for dyslipidemia in early adulthood. This was consistent with Eaton et al., 2006 (9) which found that most of the surveyed physicians agreed with the ATP III guideline to screen for hyperlipidemia in early adulthood. Self reported barriers to assessment of coronary heart diseases risk by studied family physicians in their patients showed that adherence of the patients had been reported by the highest percentage of physicians followed by the cost of investigations, knowledge of the physician, system factors, consultation length and the lowest percentage was toward the doctor patient relationship.

Self reported barriers to treatment of dyslipidemia, showed adherence of the patients had been reported by the highest percentage of physicians, followed by the cost of drugs, knowledge of the physician, health habits, length of consultation, system factors, and lowest percentage was toward the doctor patient relationship. These ?ndings of the present study were consistent with those found in Pasternak et al., 2004 (13) where most of the respondents in that survey believed that many patients were concerned about potential side-effects of prescription drugs and stated that many patients were unable to afford prescription drugs, and also stated that many patients did not comply with long-term cholesterol-lowering drugs. These same investigators found responses from consumers, that barriers include fearing the side-effects of cholesterol-lowering medication, stating that medications cost too much, not liking to take prescription medications, and willing to control cholesterol with diet and exercise. But the results of the present study disagreed with the previous study in reporting knowledge of the physician as a barrier towards assessment and treatment of dyslipidemia.

The relation between reading of NCEP ATP III guideline recommendations and physicians' score regarding dyslipidemia management practice showed a statistically significant relationship between reading of NCEP ATP III guidelines and physicians' score. This is due to the physicians who read the NCEP ATP III guideline recommendations having correct practice which resulted in a high practice score.

A number of limitations to the present study was recognized which include that data was self-reported and there may be discrepancies between what physicians self-report about their practice patterns and their actual behavior. The sample size was small relative to other similar studies in spite of having a comprehensive sample. We cannot generalize our results on all family physicians as the study was on physicians under training only.

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Medical students' perceptions of their clinical training in the pediatric ward of a teaching hospital, Iran

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Abstract

Background: Medical students' views are important for evaluation of teaching programs in university hospitals.

Purpose: The goal of this prospective observational study was to determine the students' perceptions about teaching programs in a pediatric ward.

Methods: We examined the students' perception during a two year period (September 2006 - August 2008) by using a 5 - point scale questionnaire. Positive responses were considered to be scales 4 or 5.

Results: A total of 120 fifth-year (stager) and sixth - year (intern) medical students participated in the survey. The common positive views about the teaching program of the ward included: usefulness of introductory session at the beginning of ward (76.7%), adequate presence of attending physicians in ward (87.5%), the ability of residents for teaching and problem solving (71.7%). The common negative views were as follows: lack of correlation between teaching program and must learns (44.1%), inadequate improvement in physical examination (57.4%), inadequate presence of attending physicians in outpatient clinic (60.8%). There was a significant difference between the presence of specialists in ward and OPD (P <0.006).

Conclusion: The finding highlights the perceived strengths and weaknesses in the teaching program of a pediatric ward. The results of data requires further efforts to resolve the weaknesses of the program in order to achieve better student satisfaction.

Keywords: perception, program, student, teaching

Introduction

Initial learning experiences in hospital environments aim to transfer basic clinical skills, while giving students the foundations for clinical practice. It might be postulated that such periods are highly important in influencing students' development. Indeed positive experiences at this time may impact on subsequent career choices and attitudes to certain specialties (1).

Hospitalists are physicians whose primary professional focuses are the general medical care of hospitalized patients. In teaching hospitals, hospitalists or attending physicians are playing an increasingly important role in medical education. Their activities include patient care, teaching, research, and leadership related to a variety of teaching programs such as morning reports, journal clubs, and conferences (2). Good teachers involve the learners, asking questions, framing cases to solve, forming small groups for discussion, asking for the views of learners, pausing to allow students to think, and use words efficiently (3). Students undergo a substantial period of adjustment during their training in hospitals as a learning environment (1). Exposure to teamwork early in training has been considered to improve basic communicative and collaborative skills of students after graduation. Series of planned programs such as forums and seminars, field trips, and clinical and community opportunities in underserved areas are important for exposure of trainees to community health problems. An evaluation found that the majority of students believed that such programs influenced their interest for practice in underserved rural or urban areas (4). A newly qualified doctor must be able to fulfill the needs of the population, and primary health care must be included within the training program

of general medicine and pediatrics wards (5). The opinions of 600 randomly selected doctors on what should be taught to under graduates in clinical years were analyzed. The respondents gave a high priority to general medicine, pediatrics, general surgery, casualty, and gynecology (6). Students are a reliable and valid source of information about tutor performance in teaching hospitals and have often been used to evaluate tutors (7).

The purpose of this study was to describe perceptions of students undertaking their clinical pediatric course in the pediatric ward of a university hospital. The students were asked about major elements of hospital teaching and the educational climate in the pediatric ward. Data were generated by a questionnaire survey conducted over a 2-year period.

Method and Materials

The pediatric ward of Taleghani medical center has 34 beds including 10 beds as the Neonatal Intensive Care Unit (NICU) and 4 attending physicians. The ward has structured teaching programs or 'must learn' objectives for different levels of trainees. These learning syllabuses are introduced to students at the beginning of each course. In order to direct learning, all students are provided with a pamphlet containing a set of learning objectives, or must learn, in each three domains of knowledge, clinical skills and attitudes. Out-patient departments (OPD) are handled by an attending physician and a resident according to a weekly schedule. In order to evaluate the medical students' perceptions about the teaching program a questionnaire-based survey was carried out in this ward. During the study period (September 2006 to August 2008) a total of 130 fifth and sixth year medical students attended the ward and 120 students (92%) participated in survey.

A 10-item questionnaire was completed by each participant at the end of his/her course in the word. The students were asked to mark their views with the following scales: very poor (1) - poor (2) -average (3) - good (4) - very good (5). Positive response to each statement was considered to be responses 4 or 5. The items were split into 2 main categories:

A) Students perceptions of the teaching program and teaching environment.
B) Items related to perceptions about specific elements or characteristics of education. Questionnaires also allowed for additional students' comments. The questions in section A asked students' views about the following items:

1) Definition of goals and task at the introductory session.
2) The correlation between examination and teaching materials.
3) Correlation between teaching material and must learns.
4) Adequacy of attending physicians' presence in ward or OPD.
5) Adequacy of residents' presence in ward or OPD.
6) Ability of residents for teaching medical students.
7) Availability of residents for problem solving. The questions in section B included:

1) The amount of students' achievement in following fields: taking history, performing physical examination, extraction problem list, making plan.
2) The amount of usefulness of individual teaching programs including: morning report, grand round, attending round, residents' round, conferences. Completed forms collected over 2 academic years were collected and analyzed statistically. Basic statistical analysis of the items was conducted by SPSS. The perceptions of two levels of students were compared by t-test. Statistical difference of <0.05 was considered significant. The study was approved by the ethical committee of the hospital.

Results

During the two years of the study period (September 2006 - August 2008) 130 students received their pediatric training in the pediatric ward of Taleghani medical center. Sixty-three from 70 (90%) fifth-year students (stagers), and 57 from 60 (95%) sixth-year students (intern) completed the questionnaire. A total of 120 students (92%) participated in the survey. As usual, it happened that not every student responded to every question. These missing responses comprised less than 2 percent of total responses. Table 1 (next page) shows the students' perception about the teaching program. As is shown in this table 92 (76.7%) respondents believed that the introductory session was a useful meeting for making clear their tasks and must learns. Seventy-two (60%) thought that the examination questions were correlated with the teaching material, but 42 (35%) thought that such correlation was poor or very poor. Half of the students 59 (49.2%), said that there was a positive correlation between the teaching program and the items of must learn, whereas the attitude of 53 (44.1%) about this correlation, was negative. While the presence of teachers in the ward was considered good or very good by 105 (87.5%) participants, their attendance in OPD was considered very poor to average by 73 (60-8%) participants. There was a significant difference between the presence of attending in ward and OPD ($P < 0.006$). The evaluation of residents' presence in ward revealed 76.7% satisfaction, and the same evaluation in OPD showed 59.2% satisfaction or approval. Eighty six (71.7%) respondents believed that the residents had capability to teach medical students and 81 (67.5%) said that the residents had enough supervision over medical student's performances.

Table 2 (page 41) summarizes the results of specific items of teaching materials. As it is shown in this table 76 (63.3%) students felt improvement in taking history, while only 50 (41.7%) were satisfied with improvement in physical examination, and 69 (57.4%) said that their improvement in physical examination was very poor to average. Eighty-nine (74.2%) reported positive improvement in extraction of a problem list, whereas only half of them reported the same level of

Items of teaching program	Very Poor N (%)	Poor N (%)	Average N (%)	Good N (%)	Very good N (%)
Introductory explanation about the tasks and must learn	-	7 (5.8)	21 (17.5)	53 (44.2)	39 (32.5)
Correlation between learning objective and examination	2 (1.7)	13 (10.8)	29 (24.2)	46 (38.3)	26 (21.7)
Correlation between teaching program and must learns	3 (2.5)	13 (10.8)	40 (33.3)	42 (35)	17 (14.2)
Ward Availability of attending for problem solving OPD	1 (0.8) 22 (18.3)	4 (3.3) 28 (29.3)	10 (8.3) 23 (19.2)	55 (45.8) 18 (15)	50 (41.7) 14 (11.7)
Ward Availability of residents for problem solving OPD	5 (4.2) 8 (6.7)	7 (5.8) 6 (5.0)	15 (12.5) 20 (16.7)	56 (46.7) 39 (32.5)	36 (30.0) 32 (26.7)
Ability of residents to teach medical students	6 (5.0)	7 (5.8)	20 (16.7)	54 (45)	32 (26.7)
Residents' supervision of students performance in ward	5 (4.2)	14 (11.7)	18 (15)	54 (45)	27 (22.5)

Table 1: Students' perceptions about teaching program

improvement in making a plan. Seventy-six (63.4%) considered that the contents of morning reports was good or very good. Approximately half of the students thought that the grand round was a good teaching program. Sixty-eight (56.6%) students thought that conferences were good or very good teaching programs and 40% reported them as very poor to average teaching material. A total of 105 students did not express additional comment. Only 15 (12.5%) students gave their comment about the questions. Most comments were related to heavy clinical workload. The only comment that was entirely negative referred to the coverage of material that was not subsequently tested in examination. A majority of comments (11/15) reported that they learned something new each day. We did not find any significant differences (P = 0.35) between the perceptions of stagers and interns.

Discussion

In this study we explored perceptions about the pediatric training among a sample of medical students. A total of 120 out of 130 students (92%) participated in our survey. The high rate of responses to the questionnaire, by both years of students, suggests that they considered the process to be worthwhile, which represents a positive outcome of this study. Our data indicated that most students (96.7%) believed that the introductory session was useful for their acquaintance with the ward. In another study by Mathers et al, the introductory period at each hospital was viewed as very important by the students. A good introductory period was seen as facilitating effective learning. A lecture to start off the course in the introductory period or before, would help students to understand what they need to know (1). In the above survey however some students reported the learning objectives to be vague leaving them unsure of what they need to learn, to what depth and by when. The results of our study showed that only half of the students reported a positive correlation between the teaching program and the items of must learn, and 60% found a positive relationship between material of teaching and questions of examination. The above findings impose additional effort by the medical staff of the ward to obtain more positive responses.

Examination and other evaluations must match learning objectives and be reliable and valid. Grading must be fair.

1) Your assessment about the progression in the following fields	Very Poor N (%)	Poor N (%)	Average N (%)	Good N (%)	Very good N (%)
Taking history	4 (3.3)	9 (7.5)	31 (25.8)	45 (37.5)	31 (25.8)
Performing physical examination	16 (13.3)	13 (10.8)	40 (33.3)	35 (29.2)	15 (12.5)
Extraction of problems list	2 (1.7)	8 (6.7)	20 (16.7)	54 (45)	35 (29.2)
Making a plan	11 (9.2)	17 (14.2)	37 (30.8)	37 (30.8)	17 (14.5)
2) The usefulness of the following programs	**Very Poor N (%)**	**Poor N (%)**	**Average N (%)**	**Good N (%)**	**Very good N (%)**
Morning report	3 (2.5)	8 (6.7)	31 (25.8)	44 (36.7)	32 (26.7)
Grand round	4 (3.3)	12 (10.0)	35 (29.2)	42 (35)	24 (20.0)
Attending round	3 (2.5)	9 (7.5)	22 (18.3)	41 (34.2)	43 (35.8)
Residents' round	15 (12.5)	22 (18.3)	31 (25.8)	37 (30.8)	10 (8.3)
Conferences	6 (5)	14 (11.7)	28 (29.3)	46 (38.3)	22 (18.3)

Table 2: Specific items of teaching material

Enthusiasm of individual teachers to teach was perceived to be an important determinant of the quality of teaching. Within each hospital there exists a range of students' experience and this can be attributed in part to the attitude and character of individual teachers. The teaching time has become compressed due to the competing demands of clinical work and research activities. Faculty members need to work as hard at teaching as they do at research or clinical practice (3). Inpatient teaching no longer reflects the full spectrum of pediatric practice and community- based programs with clearly defined aims and evaluation of learning are becoming increasingly important(8). The results of our survey showed that although the presence of our teachers in ward was adequate their attendance in OPD was considered unsatisfactory by 60.8% of students. The inadequate presence of attending physicians in OPD had a negative effect on students' experiences in a wide spectrum of health care problems.

Much of undergraduate clinical teaching is provided by residents. A questionnaire survey in the Netherlands showed that attending doctors perceive teaching by residents to be beneficial for students and residents alike. In general attending doctors share residents' views that teaching is an important component of residency (9). Thomas from Australia reported that residents 'teaching for medical students is novel. The difficulties arise in finding a suitable time for these important clinical teachers to transfer their skills' (10). Our date also showed that 71.7% of respondents believed in the ability of residents to teach medical students.

Our data showed satisfactory improvement in taking history and providing a problem list but weak improvement in physical examination and drawing a plan. Physical examination required close contact with patients and this is difficult work with a large number of students. In a previous study by Mathers and colleagues from Birmingham, students were sensitive to the effect on patients of large groups of students present for bedside teaching. This was particularly the case for frail patients, those who were in obvious pain or discomfort, and those with interesting signs who were often a target for students' attention. In addition to concerns for patients, the students also worried that the large numbers on ward restricted the type of teaching they received, thereby leaving the students without experience of certain examination techniques (1). Another survey from Australia concluded that, patients should be informed that interview and examination by a student doctor adds much to the discussion of their problem, with real clinical advantage for their care program (11). O'Keefe et al from Adelaide (Australia) reported that maternal satisfaction and recall were higher following a more clinically competent and patient centred medical student interview (12).

Morning report is an essential part of training and patient care in internal medicine and pediatrics. After-hours work is performed by a physician trainee covering general medicine or pediatrics and sub-specialties. The physician trainee admits new patients via the emergency department and also manages inpatient medical emergencies. It is this work that is presented at the morning report.

Morning report is a regular meeting which involves medical staff and medical students. It is supervised by an attending physician and conducted between 8 to 9 AM and all patients admitted overnight should be presented. Our data revealed 63.4% of respondents expressed a positive attitude towards morning reports. Our morning reports emphasize patient management. In a study by Fassett et al from Australia, participants have expressed a preference for patient-focused meetings, with less emphasis on formal teaching. The findings suggested that reports on all patients admitted overnight should be presented, as participants expressed a dislike of lengthy theoretical discussions centered on one or two cases that seemed to have little relevance to patient management (13). In a prospective observational study about pediatrics morning report from Iowa (USA), participants preferred the format in which patient evaluations were discussed less and patient clinical presentations and path physiology were discussed more (14).

In our survey 40% of respondents had no positive attitudes towards conferences or regular classes. Several studies have demonstrated that students preferred problem-based learning (PBL) as an educational method. PBL is student-centered, self- directed and a collaborative method in medical education. It is based on clinical cases and is widely considered to facilitate the development of key professional competencies. In PBL the formal teacher-centered and lecture-based model of teaching was replaced with student-based, small-group integrated learning, in which the teacher is a facilitator of the learning process rather than a resource expert (15, 16, 17). The primary purpose of the PBL group session is not to reach a diagnosis per se, but to use the case as a vehicle for the generation of learning issues (15). In a previous undergraduate teaching course in child health, medical students were encouraged to prepare and present topics to their colleagues. The majority of students felt that the course had advantages in the area of personal research (18).

In conclusion this research suggests that improvement in several educational programs such as, more enthusiasm of specialists in OPD, better correlation between must learns and teaching and more ability for transferring of clinical skills may be accompanied with better learning of students. The results of the study have indirect implications for medical faculty development.

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Equity in Healthcare: Status, Barriers, and Challenges

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Abstract

Global health provides a challenge for primary care and general practice which will become increasingly important in the future as the prevalence of multimorbidity increases. There is increasing likelihood of survival from acute illnesses and increase an in the elderly population. This literature review focuses on the health inequities, the role of family medicine and the factors that are essential in overcoming these inequalities.

Health disparities refer to gaps in the quality of health and delivery of health care across racial, ethnic, gender and socioeconomic groups. The health disparities vary among different countries and the factors that lead to these disparities differ across the world. Family medicine plays a crucial role in bridging this gap and is an essential backbone of the society in developing nations as well as the wealthier nations in providing equity in health care to all people. There are many factors leading to inequity in health care. Family medicine should be recognized as a specialty across the world, as family medicine with its person centered care can bring about a global change in health care. This issue has to be taken up more seriously by the institutions like the WHO, UN and also individual governments along with the political parties to create uniformity in health care. In the current setting of the global economic and financial crisis, a truly global solution is needed. The WHO has come up with various strategies to solve the issue of financial crises and ensuring equity in health globally. This will ensure equal health care to all people especially the underprivileged in developing countries who do not have access to better healthcare due to lack of resources. This factor is a major contributor to the premature death of individuals at all stages of life from new born to the elderly and includes infant mortality and mortality due to chronic diseases. This is important in creating uniformity in health care across the world but has to be considered at a global level to have an impact.

Keywords: Family practice, health, health care disparities and health services

Introduction

Increasing disparities in health, including concerns regarding health of the poor, has resulted in emergence of "health inequalities", as an important issue for Health Care Planners and Policy makers (1). "Equity in Healthcare" is an ethical concept and is based on the right of an individual to have access to healthcare. "Social Justice" or "Fairness" are terms used in a similar context but mean different things to different people at different times (2).

"Equity in Health Care" means that health resources are allocated and health care services are received according to need. Payment is made according to ability to pay. It underlines a commitment to ensure guaranteed access, high quality and acceptability in healthcare services for everyone. International efforts towards achieving health equity have focused on reducing the dramatic health disparities between better and worse off nations even though the evidence demonstrates large health disparities between social groups within countries(2).

Global health offers a challenge for Family Physicians, as they become more important in future due to the rise in prevalence of multi-morbidity; a result of increasing likelihood of survival from acute manifestations of illness, ageing population and as the cost of care increases with increasing availability of technologic interventions(3). Family Physicians play a fundamental role in providing equity in healthcare by looking after the needs of the underserved populations. This issue should be taken up as a challenge at the global level before we face an irresolvable crisis (4).

Family Physicians are trained to provide comprehensive health care based in a well coordinated manner and can handle a complex set of problems in a patient with ease and efficiency. They are considered the first step of contact with the healthcare delivery system (5) and have a patient centered role (6)

This article focuses on equity in health care, role of Family Medicine in providing it and challenges it faces in doing so. The second objective is to focus on the barriers in providing equity in health care with a vision to overcome them.

Achieving Health Equity - from root causes to fair outcomes

"Equity in Healthcare" is provision of equal health care to all regardless of different levels of social advantage or privilege(2). It ensures equitable health care provision to individuals in equal need (often referred to as horizontal equity), irrespective of individual's socio-economic status, gender, race etc. It highlights targeting those with poor health status, larger disease burden and fewer resources. It favors populations and countries with the greatest burden of poverty and disease. Equity in healthcare provision ensures that people have access to a minimum standard of healthcare, based on concept of equal access for equal need. Inequities in health care results from disparities among groups of people with variable social position based on factors like income, occupation, education, geographic location, gender and race/ethnicity etc(7). Such disparities result in inequities in health and are considered avoidable, unfair and unjust(8).

Provision of access to healthcare for all in need requires economic means and political will. Evidence demonstrates pervasiveness of inequities in health and healthcare both between and within countries at different stages of development(9). The second half of the 20th Century saw improvement in life expectancy and child survival but progress among disadvantaged groups has been slow, resulting in inequities in health and healthcare that have persisted and in some case even widened(10).

Poor and marginalized segments of society have more needs for health care than their rich counterparts. However, access to healthcare still follows the inverse care law and the availability of good quality healthcare seems to be inversely related to the need for it(1).

Currently, a significant majority of the world's population is without appropriate healthcare, mainly due to financial constraints or a lack of governmental will to provide sufficient funds for provision of basic health care along with the education and training of doctors. As a result, there are insufficient numbers of qualified doctors in most parts of the world including wealthier nations.

A paper from Libya examined primary health care components namely manpower, equipment, space arrangements and management systems in Benghazi city. A sample of 9 health centres and 7 polyclinics were selected for gathering information. Facilities were well staffed. The medical and management side appeared strong in terms of education, experience and skills. Facilities had full equipment but were neither well utilized nor well maintained. Facilities had either started or were in the process of initiating system based management techniques. Human resource development activities were not emphasized at primary health care level. Decision making processes at these facilities require improvement through participation. Demand analyses should help to manage equipment and material resources. Development of systems and manuals should be encouraged to improve standards.

Role of Family Medicine in Society

Equity is one of the core principles of the Primary Health Care(11). Family physicians are considered the back bone of the health care system and provide comprehensive care to families, irrespective of age, gender, or illness(12). They are capable of providing care for the majority of conditions encountered in the ambulatory setting and integrate all necessary health care services along with provision of preventive, promotive and rehabilitative services to each member of the family.

Globalization trend is having pronounced effects on health

care(13) through influences on economic and social determinants that are threatening equity. New emerging challenges require new approaches to organizing services, with a specific focus on people and populations and their illnesses rather than specific diseases alone. Family medicine is an area of expertise providing health care based on the principle of comprehensive, and coordinated approach to achieve early recognition and management for the multiplicity of conditions likely to be long-standing and life-threatening(6,14). These aspects of Family Medicine make it the unique specialty that can help promote Equity in Healthcare delivery.

Examples from family medicine:
Family Physicians cater to all age groups with a cost effective approach and refers those requiring specialized care. It has been shown that patients receiving care from Specialists providing care outside their area of expertise have higher mortality rates for community-acquired pneumonia, acute myocardial infarction, congestive heart failure, and upper gastrointestinal hemorrhage(15). A higher rate of referral and investigations are offered by other Specialists, eventually leading to increased burden on health care services(16).

Early detection of breast cancer,(17) cervical cancers,(18) and colorectal cancer(19) is significantly higher with increasing numbers of Family Physicians in comparison to other Specialists. Family Physicians play a vital role in preventing disease as well as promoting healthy lifestyle, as first contact in the community. They manage most common illnesses in the community.

Increased accessibility to Primary Healthcare Physicians has shown better population health and lower total healthcare costs(20). Family practice is associated with reduced socio-economic disparities in overall mortality, infant mortality and low birth weight, stroke mortality, self-reported health and avoidable hospitalizations(21).

The equity-enhancing effect of primary care is evident through a research, with 17% lower post neonatal mortality in high income populations having a good number of primary care physicians, in comparison to 7% in low income population areas deprived of primary care physicians(22).

Barriers to health care
Lack of Primary Care Physicians globally is a concern since a majority of care is specialist oriented that contributes to high-priced healthcare, particularly in wealthier nations.

Lack of support from the government, including failure to recognize Family Practice as a distinctive entity in the health care system, with disproportionate allocation of funds for tertiary care(23), lack of support from the other health care professionals and with a sense of questionable financial stability leads to increased preference of subspecialty for future specialization and career choice. Lack of recognition of Family Medicine as a distinct Specialty has led to limited training opportunities for doctors in primary care and failure to incorporate as a subject in the curriculum for undergraduate teaching(23). As a result of such neglect, there is scarcity of leaders and role models in this emerging specialty.

Time constraint is a barrier to effectively address the multiple complex problems presented by patients in primary care(25).

Language barriers, low education, and poverty also lead to decreased preventive care and discomfort with male health care providers leading to poor attendance(26). Cultural beliefs of Patient and Health Care Providers may not be compatible, leading to suboptimal health outcomes and health care inequity (27,28).

Issues of poverty are real with 108 and 91 nations deemed low and middle income respectively. Nations will need to decide if universal healthcare is a spending priority for them or not. The sequel of poverty and lack of appropriate healthcare creates an exponentially increasing financial burden, perhaps even higher than the cost of strategic programs designed to provide universal healthcare. This burden includes issues of public health, sanitation, clean drinking water supplies, poor nutrition and housing among others.

If individual poor nations cannot economically provide these healthcare services - should wealthier countries be assisting? Certainly wealthy countries have a vested interest in global health, with disease outbreaks, pools of unimmunized people, and lack of equity and parity leading to social unrest and wars.

Economics of health equity:
Economics of health equity is measured using tools such as the Gini index(29). The Gini coefficients or index is a measure of the inequality of a distribution, a value of 0 expressing total equality and a value of 1 maximal inequality.

The following points should be considered while providing resources in order to maintain equality.

1. Equal life chances: life outcomes should be determined by individual choices and not conditions beyond an individual's control.
2. Equal concern for people's needs: those goods and services understood as necessities should be distributed to those otherwise unable to access them.
3. Meritocracy: positions in society and rewards should reflect differences in effort and ability, based on fair competition.

Impact of financial crisis on Health : A truly Global Solution
In the last few months, the forecasts for economic growth in all parts of the world have been revised(30).

It is not clear what the current economics have in store for low income and developing countries, but the predictions are highly pessimistic. Family medicine thus, has an important role in affluent as well as

MDG Goals	MDG targets	Initial	Recently	Target
Goal 1: Eradicate extreme hunger and poverty	To decrease poverty by half the initial value	42%	25%	21%
	To decrease undernourishment by half the initial value	20%	17%	10%
Goal 2: Achieve universal primary education	Universal education	83%	88%	100%
Goal 3: Promote gender equality	To promote Equal ratio of girls to boys	91	95	100
Goal 4: Reduce child mortality	To reduce it by 2/3rd of initial	107	74	34
Goal 5: Reduce maternal mortality	To reduce it by 3/4th of initial	480	450	120
Goal 6: Ensure environment sustainability	To increase access to sanitation by half of the initial value	57%	45%	28%
	To increase access of clean water by half of the initial value	28%	16%	14%

Source: UN Millennium Development Goal Report, 2009.

Table 1: Millennium Development Goal for developing countries

developing nations at this hour to bring about equity.

A global crisis requires global solidarity and actions.

The impact of the crisis will vary by country, but to sustain levels of health there is growing consensus as to what needs to be done.

People are the ultimate target of economic recovery(30).

Effects on health indicators:
Despite substantial progress in recent decades, with strategic planning and raising the bar of quality of health care provision, we still lag behind in providing health for those in dire need and are unable to achieve millennium development goals. In this instance developing countries lag far behind as compared to developed ones(31).

Target and Recommendations :
Equity in healthcare must be made a priority by governments, where plans and reforms should focus on offering healthcare to all, regardless of social, economic or religious factors.
It is only through putting “Equity in healthcare” on the political agenda, that governments will be able to achieve this goal. There should be national legislature that entrenches values of equity and social justice, and lays the basis for the legal environment to promote equity.
Health equity cannot be regarded as the responsibility of the health sector alone, it needs to be treated as an issue that requires collaboration among all stake holders including public, governmental and non-governmental sectors.

There are seven principles of action for addressing global health inequities(32).

1) Improving living and working conditions
2) Enabling healthier lifestyles
3) Decentralizing power and decision making
4) Conducting health impact assessments of multi-sectoral actions
5) Keeping equity on the global health agenda
6) Assuring that health services are of high quality and accessible to all.
7) To base equity policies, monitoring and evaluation.

Vision: Health Care Reform and Primary Care - The Growing Importance of the Community Health Center

By the year 2015 every country should have an integrated system for monitoring the health system equities that informs, monitors and evaluates health and other socio-economic policies (32).

There should be community health centers in every part, urban as well as rural areas of every nation, that provide health care to all the people irrespective of their ability to pay. The services rendered to insured patients and uninsured patients should be given equal importance and access to health care by allowing them to "pay-as-you can"(33).

This also requires transforming education to strengthen health systems focusing on equity in healthcare(34). In their commission report, Julio Frenk and colleagues highlight the expansion of "academic centres" to "academic systems" as a key process in the transformation of health professional education for a new century. Such a programme could enhance meaningful interprofessional education for medical students, favouring continuity of training and care, patient and community centredness, and social accountability.(34)

This system will allow equal access to health care to all irrespective of the nature of illness, gender, socio-economic status, race and the medically underserved population.

With set goals in mind can we achieve equity in health care at a global level.

Conclusion

To meet desired goals in achieving "Equity in Healthcare" is a real challenge for health care professionals and governments and requires a collaborative effort. The rate of progress needs to be accelerated and the poorest need to have full access to quality services, with investments made to meet targets.

This is a global issue and requires participation from all the countries to come forward to assist equity in health care. Similar to the collaborative efforts of all countries to eradicate AIDS, tuberculosis, and malaria, this issue should be brought forward on an International agenda, to support "Equity in Healthcare" and promote Family Practice as a separate specialty to help all population living in communities.

This goal cannot be achieved with effort of the health care sector alone but it involves all stakeholders at global level, so that equity in health care can be achieved for all, irrespective of the barriers of socio-economic status, gender or nature of illness. Thus equity in healthcare should be an important component in the future definition of general practice/family medicine.

Glossary

Horizontal equity:
Equal treatment for equal need

Vertical equity:
Extent to which individual's unequal in society should be treated preferentially

Comprehensive care:
It is a concept bringing together inputs, delivery, management and organization of services related to diagnosis, treatment, and care, rehabilitation and health promotion

Health Indicator:
A measure that reflects, or indicates, the state of health of persons in a defined population. Examples - rates of disease, disability and death.

Health Disparity:
A statistically significant difference in a health indicator between groups that persists over time.

Health:
A state of complete physical, mental and social well-being and not merely the absence of disease or infirmity.

Autonomy:
It refers to the capacity of a rational individual to make an informed, un-coerced decision.

Globalization:
It is defined as increased interconnectedness and interdependence of people and countries, and generally includes two interrelated elements: the opening of borders to increasingly fast flows of goods, services, finance, people and ideas across international borders; and the changes in institutional and policy regimes at the international and national levels that facilitate or promote such globalization.

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An Examination of Primary Health Care Quality in Benghazi, Libya

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Abstract

Introduction: The Libyan National Health System (LNHS) is debated for its conflicting performance versus impact. LNHS has poor performance but the national health statistics are registered to be high and competitive. There are concerted efforts to manage health care services and regain the lost trust.

Objectives: This study was conducted to examine primary health care components; namely manpower, equipment, space arrangement and management systems in Benghazi city.

Methodology: A sample of 9 health centres and 7 polyclinics from various locations were selected for gathering information by way of structured discussions with administrators and key staff and systematic observations on operational elements.

Results: Facilities were well staffed with varying skill levels at medical, paramedical, management and support levels. The medical and management side appeared strong in terms of education, experience and skills whereas the paramedical and support side appeared weak on the same parameters.

Discussion: Facilities had equipment both necessary and luxury, but were it was not well utilized nor well maintained. There were initiatives to improve equipment handling methods. Facilities were spacious but congested due to lack of interior decorations. Facilities had either started or were in the process of initiating system based management techniques.

Conclusions and recommendations: Human resource development activities were not emphasized at primary health care level. Staff training needs improvement for equipment management, spatial arrangement and system based management, which require techniques; namely, benchmarking and management by objectives. Decision making processes at these facilities require improvement through participation. Demand analyses will help to manage equipment and material resources. Interior decorations might improve spatial arrangement and beauty of facilities. Development of systems and manuals should be encouraged to improve standards.

Key words: Quality management, manpower, systems, space, equipment

Introduction

Services of Primary Health Care (PHC), the prime component of the Libyan National Health System (LNHS) are offered through polyclinics, health centers, health units and workplaces (1). Following Alma-Ata Declarations, the LNHS expanded PHC services through various legislations (2); thereby entrusting the Secretariat of Health and Environment to (i) administer services (ii) ensure sustainability (iii) strengthen quality and (iv) emphasize community and outreach services (3).

Primary health care services are provided in Benghazi, the fastest growing city in Libya, through 39 facilities (10 PHCs; 11 polyclinics and 18 health units), where quality of care emerges as the prime consideration. Providing right services right, at the right time offering greatest health benefits with least health risks, to the greatest number of people given the available resources (4) is quality of care.

Quality of care - a two perspective approach viz., clients and providers consider clients' concerns on technical competence as essential to quality healthcare (5). From a providers' perspective, quality means offering technically competent, effective and safe care that contributes to an individual's well-being. Accordingly, program efforts lead to elements in the unit of services, which produce an impact on (i) client's knowledge (ii) client's health or (iii) client's satisfaction.

It was in this context of increasing importance of quality of primary health care in the Libyan health system, that this current study was carried out to examine components namely (i) manpower (ii) equipment (iii) space arrangements and (iv) administrative systems.

	Health center	Polyclinic	Total
Total in the City			
Al Birka	4	5	9
Al Slawy	3	3	6
City Center	3	3	6
Total	10	11	21
Included in the Sample			
Al Birka	3	3	6
Al Slawy	3	1	4
City Center	3	3	6
Total	9	7	16

Table 1

Methods and Materials

This paper was based on a survey conducted during January-February, 2009; at primary health care facilities, Health Centres and Polyclinics, located at various geographical zones of Benghazi city. This survey included 9 primary health centres and 7 polyclinics selected through a lottery method from each geographic zone (Table 1).

This survey was carried out by means of (i) structured discussions with facility administrators and other key staff (depoted by the administrator) and (ii) systematic observations. Attempts were made to look at various quality inputs such as manpower, equipment, space and administrative/management systems.

Two tools were developed, namely (i) facility discussion schedule and (ii) observation guide, for survey. The facility discussion schedule was designed to record details about manpower, administrative systems and structures, space allocation and equipment. Manpower details, namely, age, sex, education, qualification, training and experience of each and every staff member and consultant were explored. Systems and structures used to monitor work performance, namely, attendance register, stationery records, administrative file, salary file, functional process observation record, cleaning records, purchase records, quality control manual, performance records, goal achievement information, feedback system, personnel selection process, entry-exit records, team management system, team leadership, collaboration records, written policies, task and objective setting, communication files, formal reporting relationships, performance evaluation, annual report preparation and budgeting were explored. These system components were discussed and recorded on a four point scale - well functional, functional, poorly functional and no system. The type of building and its carpet area were the information recorded about space. Available equipment was listed along with its model, frequency of use and operational condition.
The observation guide was designed to explore similar components.
The manpower skills, hospitality, hygienic condition, computerization, human resource management, training provisions and maintenance of equipment were observed. Observations were made throughout the facility systematically, exploring details.

Data collection was carried out by researchers well trained to gather qualitative information. Survey process was standardized by allotting 3 man days in each facility during the morning shift.

Instructions were laid down for the researchers in the form of a Survey Manual.

Collected information was analyzed by reading, discussing and translating both language and content by using mnemonics technique. All the information from each was analyzed logically. It formed case stories about each facility separately. There were lacunae in information completeness because of the absence of uniformity of information from the facilities.

The study was approved by the Faculty of Public Health. Prior permission was sought from the Secretary of Health in Benghazi and also from selected facilities.

Results

Results are presented under sections viz., manpower, materials/equipment, space and systems.

a. Manpower

The majority of health centres and polyclinics were functioning with a large number of staff in both medical (medical and paramedical) and non-medical fields, which was comparable with the patient load at each facility. For example, Facility No. 1 (Health Centre) had 50 staff to attend 70 patients a day. A polyclinic (Facility No. 14 had 180 staff to attend 150 patients in a day. There was a facility (Facility No. 7 - Health Centre) operating with 52 staff and catering to 250 patients a day. Medical physicians were general practitioners or specialists in pediatrics, gynecology, obstetrics,

dermatology, dentistry and ophthalmology. All the physicians were university graduates and specialist degree/diploma holders. The paramedical (medical support) staff include pharmacists, nurses, nursing assistants, laboratory technicians, health inspectors/ visitors, dental assistants and nutritionists. They were either diploma or certificate holders. This is the case with all facilities. Staff in general had good qualities, good conduct and cordiality within the facility and with less differences of opinion regarding operations. There was an exceptionally high proportion of females among the staff especially in the paramedical and secretarial functions. But there was no uniformity. While Facility No. 1 had 50 percent females, Facility No. 5 had 85 percent female staff. An important concern in matching people with job is gender specificity in vocations. The caring and pleasing nature of women suit hospitality and reception services. But, most of the facilities had males at the front desk. The front desk persons appear less sound, both in terms of integration and co-ordination. There are no efforts to receive, respond and advise patients on registering, consulting or locating pharmacy and laboratory. They appear least aware of their responsibilities. They were found to be spending time “watching TV, chatting with friends and smoking”. There was cigarette smoke in some of the centres.

The staff on average were of higher age: their median age was around 35 years, even though an age range of 22 to 62 was observed. This age contributed to higher years of experience; to a maximum of 38 years.

There was misconduct observed and reported during discussions, confidentially, from some of the facilities, both medical and non-medical staff, that affect a quality atmosphere. They include smoking (creating a smoky atmosphere) and drinking (coffee and soft drinks) at any place including diagnostic rooms, waiting rooms and everywhere in the centre creating a non-professional appearance. Training programs and opportunities for career up-gradation, refresher programs and exposure were in demand for the staff. While growth opportunities were bothering; issues of ‘low pay’ and ‘housing facilities’ were their personal concerns. Not only were there grievances but also issues like “poor team work” and “low work load”. Staff grievances were many, for which attention was merely absent.

b. Equipment

All these facilities were equipped with devices - mostly modern, which were used for diagnosis and treatment. The major equipment used were X-ray, ultrasound, ECG, dental chairs, centrifuge, dental sterilizer, blood analysis and laboratory equipment. There were biases as to availability of equipment and some were not at par with requirements or even availability to professionals. This leads to poor maintenance of equipment as well as careless handling. Outdated equipment was also found, but at negligibly less number of facilities. While Facility No. 8 suffers from a shortage of accessories to handle outdated equipment; Facility No. 9 had a shortage of accessories to operate modern equipment.

There were facilities keeping equipment in good condition through periodic maintenance monitoring (Facility No. 2, Facility No. 3 and Facility No. 14). There were facilities, where modern equipment was stored without periodic maintenance, making that equipment non-functional. Staff responsible for this equipment were poorly trained. Almost all these facilities had a computer as well. It is an accumulation of equipment beyond bare necessity that has created congestion in one of the facilities (Facility No. 14).

c. Space

Most of these facilities had sufficient area as they were specially built for the purpose (all facilities except No. 6, 7 and 13), and a large visiting area and specially partitioned consulting rooms, diagnosis rooms, well furnished laboratories and pharmacies; these facilities had ample space for operation and storage.

A few of these premises were converted for the facility (Facility No. 6 and No. 7). Nevertheless, they were both inappropriate in the type of premises. For example Facility No. 14 faces congestion due to equipment; No. 6 faces internal congestion; No. 7 had not been renovated or reorganized; No. 15 is poorly maintained. Architectural design does not show a sense of compactness in terms of spatial arrangement.

d. Management Systems

These facilities work in harmony with the policies and objectives of the Secretariat of Health, Benghazi. It was the administrative secretary of these facilities who networks with the Secretariat, building goals, objectives and targets. As per the vision and mission of the secretariat, these facilities develop infrastructure and functional units.

There were facilities that maintained a level of autonomy in day to day functioning, exerting innovation and autonomy. For example Facility No. 6, No. 7, No. 9 and No. 16 had a managerial process that works with independence. There is a Facility (No. 13), where the administrator consults the Secretariat of Health only in the case of major decisions.

Annual reports were the most important management activity carried out by these facilities. Most of these facilities discussed these annual reports at staff meetings and based action plans and goal settings as well as human resource policies. It shows the tendencies towards proactive operations, which might facilitate forward thinking strategically.

There were a few facilities, which had started computerization of patient records. Efforts were there to create such records with an eye to build Health Management Information System (HMIS). Staff with training in computer applications (Facility No. 9), were of use in creating HMIS.

Case Stories

Case 1
A health centre located at City Centre Zone of Benghazi, which caters to one big township, was located in an independent building. This facility had a total of 50 staff; out of which 30 were medical and 20 were non-medical. The medical staff included 12 physicians (11 general physicians and 1 dermatologist), 4 pharmacists (1 Bachelor degree holder and 3 Diploma holders), 6 laboratory technicians (4 Master degrees in Science; 1 Microbiologist and 1 Diploma in Lab technology) 9 Nurses (all diploma holders) and 3 pharma assistants. The non-medical staff were a professionally qualified manager, secretarial staff, security staff and support staff. Out of the 50 staff; 25 were males and 25 were females. Their age ranged from 25 to 48 years; with a majority aged between 30 and 32. Training was undertaken by a few staff namely the manager with computer training and nurses with training from speciality hospitals.

Staff, especially physicians, hold high levels of professional qualifications. Staff on a whole were hardworking and were observed to be well experienced; to a range of 7-21 years. The centre had a good mix of professionals. Staff harmony was found to be less thereby lacking team spirit.

This health centre had been architecturally designed for the purpose, thereby serving the requirements to a large extent. The facility had a well equipped laboratory but the pharmacy had limited space and less storage of medicines. The centre attended to a total of 400 patients in a week, which comes out to be 70 per day (as the facility functions on a 6 day week basis).

Case 2
A health center located at the City Center operates from a large building and had 46 staff (19 males and 27 females). There were 35 medical staff (14 males and 21 females), who included general doctors, gynecologists, dentists, pharmacists and X-Ray technicians and 14 nurses. The non-medical staff included manager, secretarial staff, front desk and security staff. The team was working with a good level of expertise and efficiency, carefully displaying the spirit of cooperation and interdependence towards success of the center. There was an extent of inappropriate behavior and friendly cliques that worked positively through diligence. The Administrative Secretary was highly efficient and showed a high level of cooperation. He was assisted by the team that supported him in implementing policies of the health centre. The centre works from 8 am to 2 pm and also in the evening.

Doctors and other staff say “no accommodation” “no promotions” “no bonuses” etc. But the system was based upon annual reports which were critical in determining promotions.

There were concerns about the administrator’s favoritism to some people and allowing them to participate in decision making. There were also concerns about poor status given to senior staff namely physicians and nursing staff in co-ordinating, especially in external relation building and involving them in managerial functions namely salary fixing and assessment of training needs. Internal communication systems were a requirement.

Cigarette smoke near the screening room was observed. Ambulance and medical supplies were merely absent and also protection of staff was of concern.

The centre operated in a building newly constructed for the purpose, which had an integrated laboratory.

The center attended to about 80 cases a day and operates 6 days a week.

Devices viz., ECG, dental chair and Ultrasound were available and these were modern and well-functional.

Management of the centre depended well on attendance records, personnel files; hygienic maintenance routine and performance monitoring leading to achievement of objectives. There requires efforts to incorporate stock taking of stationery and equipment requirements for routine maintenance work. There also required integration of activities performed by various staff members.

Case 3
A health care center located at City Centre of Benghazi functioned from a large building designed for the purpose. This centre had staff strength of 56 (23 medical and 33 non-medical). The medical crew consisted of 5 doctors (general practitioner) 3 dentists (University educated) 7 pharmacists (Diploma holders) 6 Nurse (Higher Diploma) and 2-radiographers (Diploma holders). This staff team was aged between 24 and 55 years. Training sessions were rarely planned for these staff except a few had undergone English language and computer programs. In general, staff were experienced and skilled, but required refresher programs to upgrade their skill level. With a spirit of cooperation within the organizational design, staff struggle hard to achieve goals of primary health care.

With the able management of the director and deputy director, the centre ably networked its outreach, health education and school health programs. A large part of decision making was done by the above team of administrators.

This centre, without inhouse management policies, functioned according to the policies and regulations of the Secretariat of Health of Benghazi Shabiat. Having morning (8 am - 2 pm) shifts, the centre sometimes faced space shortage even for physicians. “No system of incentives”, “no strict policies”, “no incentive even though work load has increased”, were the grievances.

Depending heavily on directives of the Secretariat, the centre

management had less freedom especially in salary fixing, promotions, training courses and internal communication systems. There was a higher level of health care provision but it had a weak supply of medicines and supplies for its outreach activities viz., health education and school health.

The center had a newly developed laboratory, which was well equipped. The well furnished pharmacy needed to be supplied with basic stocks in order for functioning.

The center received about 490 cases per a 6-day week (82 per day).

The Center had an ultrasound device, a full blood analysis and dental chair: all new and up to date technology.

Attendance record, personnel files, cleaning programs and annual report preparation were brought into the system. Stationery and other supplies to the staff were well recorded, which facilitated smooth functioning towards goal achievement. There were concerns from the staff side regarding contributing to national health agenda and improving primary healthcare services through performance monitoring programs.

Case 4

A health center located at Al Birka zone of Benghazi, functioned from a building designed for the purpose. The staff team consisted of 11 males and 44 females (with ages ranging from 30 to 45) of which 47 were medical staff (general practitioner, pharmacists, dentists, child specialist, maternity specialist, skin specialists, ophthalmologists, nurses, technical analysts and Radiographer). Non-medical staff were Director-General (Administrator), front desk staff, junior administrators, computer operator and security staff. The nursing staff were diploma holders, who received certificates in rehabilitation conducted through inhouse training programs. Staff on an average had experience ranging from 6 to 27 years. Staff perform their work efficiently in cooperation with each other.

With regard to equipment available, there was plenty and all was frequently used. Equipment namely ECG, Ultrasound, Centrifuge, and dental chairs were well functional.

The center operated in two shifts (morning and afternoon). There was an attendance register and stationery register. But the hygienic maintenance system was lacking even though the hygienic condition was more than satisfactory.

There were some controlling measures imposed on staff which had both positive and negative repercussions. The centre worked under the written policies of health department within the governing laws but keeping objectives of attainment of health for all by all.

Still staff complained of “No accommodation facilities”, “no lucrative salaries” and so on.
The Administrative Secretary was the decision maker who strictly follows the directives of the Secretariat of Health. He communicates regularly with the Secretariat and keeps updated.
Despite administrative constraints, lack of modern equipment and ambulance facility, the centre focused on satisfaction of patients and public acceptance.

Case 5

A health center located at Al Birka of Benghazi was operating from a building designed for the purpose. The total number of personnel in this center was 54 (46 males and 8 females) out of which 45 were medical (1 male and 44 females) and 9 were non-medical (7 males and 2 females). Medical staff included general practitioners, gynecologists, pediatricians, ophthalmologists, nurses, medical assistants, laboratory technicians, health inspectors and pharmacists. Non-medical staff were administrative Secretary/deputy director, computer technician, front desk staff, secretarial staff and security staff.

The centre had an ECG and an Ultra Sound; both of which were used daily.

The center functioned from 8 am to 1 pm.

There was a personnel file and also a file record of hygienic activities but there was no record of attendance. There was a scarcity of resources and space but there was a committed effort to achieve objectives of providing primary health care services to the best satisfaction of clients.

There were no teams nor was there team spirit. “Rare opportunities of training” or “no lucrative salary” were some of the concerns along with “provision of housing” and “ambulance”. There was hope for higher efficiency in care with improved conditions viz., modern equipment and supplies for hygiene maintenance.

Case 6

This health centre located at Al Birka zone had 52 staff members (46 medical and 6 non-medical). Medicals staff were general practitioners, gynecologists, pediatricians and surgeons; dentists and dental surgeons; community health visitors, dental technicians, pharmacists and nurses. All were university qualified except nurses who hold diplomas. Non-medical staff were administrator, secretarial and security. There were 22 males and 30 females in the staff team; whose ages ranged between 30 and 58 years; with an average age of 35 years. On average, staff were experienced in the health sector (between 4 and 16 years). Refresher training programs were rare opportunities.

Staff work in harmony and with cohesion; an extent of team spirit was observed among both medical and non-medical staff. This harmony might be strengthened through staff training programs.

The building from which this centre operates did not suit the requirements, which was seen from the internal congestion. This was especially because of the large number of patients who accessed this facility in a day (approximately 250).

There was urgent space requirement for a laboratory.

There was a poorly functioning filing system especially attendance and annual reports. This was because of the absence of specially trained staff for record keeping. But there were efforts to integrate rehabilitation specialists and focus on cleanliness of premise and to make the centre as a "healthy integrated whole system" that focus more on objectives and targets. It was of importance to improve the system of purchase of stationery and maintenance contract of equipment.

Case 7

A health center located at Al Slawy zone of Benghazi city was located in a medium-sized building. This centre functioned with 48 employees (18 males 30 females), which included 32 medical staff (12 males 20 females) and 16 non-medical staff (6 males, females 10). The medical crew consisted of two doctors (general practitioner); 4 dentists; 5 pharmacists; 16 nurses:, 3 X-ray technicians and medical technology specialist and 1 technical staff. Physicians, dentists and pharmacists were university educated whereas others were educated with diplomas. Non-medical staff were employed in administrative, secretarial, reception, cleaning and security divisions. Almost all these staff were well experienced (2-33 years) and were aged between 29 and 59 years. This staff profile reflected in their executive functions as well. A good cohesiveness was observed except minor clashes within the nursing team members.

The center functioned well under the able leadership of the Director, who was well qualified and experienced, who developed administrative policies with due consideration of public interests. The diligence in decision making was criticized for not being participatory, which reduced contribution of other members of the team. Lack of internal staff assessment; staff training programs and internal communication networks were observed.

The official timing of morning (8 a.m. - 2 p.m.) and evening hours was not being strictly followed by the staff team which were reflections of commitment. This might be attributed to the lack of incentive systems especially promotions or bonuses

Hygienic level of the centre was poor. There was cigarette smoke inside the centre. Systems of security were undisclosed, which shows non-transparency. Lack of medicines and no maintenance contract of equipment were noted, There were serious efforts to build records of attendance, personnel files, hygienic systems and staff performance evaluation through Management by Objective (MBO) technique. There were efforts toward participatory planning and creation of annual reports. This led to serious internal discussions regarding task descriptions, delegation and division of labor.

The centre functions in a building designed for the purpose years back' but with increase in staff strength and equipment, the centre faces space shortage to accommodate modern and well-functional X-Ray machine, dental chairs and ECGs for attending 40 patients in a day (25 males and 15 females).

Case 8

This health centre was located at Al Slawy zone of Benghazi city. There were 96 staff (86 medical and 10 non-medical). The medical staff included 11 physicians practicing general medicine and gynecology. There were dentists, pharmacists, nursing staff, lab technicians, X-Ray technicians, health inspectors and public health visitors. Non-medical staff included administrators, front desk and security staff. A large share of the staff was females (69) as compared to males (27); the majority aged between 30 and 44 years. Staff development activities, like training were rarely reported.

There were several items of equipment, most of them non-functional especially because of the lack of necessary raw materials. Most of the equipment was old (outdated). High level scientific skills or initiatives by staff were rarely seen in the centre.

The centre functioned from a building specially designed and which was spacious enough.

There were efforts to involve expert involvement in the creation of systems of record keeping for manpower, cleaning and maintenance, annual reports, operational manuals and periodic discussions about performance.

The centre received around 50 to 120 patients a day.

Case 9

Located at Al Slawy zone of Benghazi city, this health centre had a total number of 71 employees (55 medical and 16 non-medical). Medical staff were doctors (general practitioners, gynecologists, pediatricians and dermatologists), dentists, pharmacists, X-ray technicians, laboratory technicians, nurses, health visitors, nutritionists and dental assistants. Non-medical staff were administrator, receptionist and security staff. Workers, included 20 males and 51 females in an age range of 30 to 60 years; with a majority between 35 and 45 years. Staff were highly qualified and experienced to a maximum of 39 years.

There were special training opportunities in nursing as well as computer applications.

There was not much cooperation among staff to contribute to centre objectives. On an average 40 patients were treated in a day.

This centre functions from a building designed to suit the requirements and it spaciously accommodated all the modern equipment. There was a shortage of necessary materials for day to day functioning. Maintenance contracts were absent in the centre.

Attendance records, staff files, records regarding cleaning of the facility and annual report on staff performance were working well.

Quality control, work integration, leadership process, quality improvement process and organizational reform activities were also in place. But, the maintenance of equipment and goal orientation were weak in this centre.

Case 10
A polyclinic located at city center of Benghazi had a total of 71 employees (60 in medical and 11 non-medical). The medical staff include general physicians, gynecologists, obstetricians, dermatologists, pharmacists, laboratory technicians, nurses, health visitors and health inspectors. Non-medical staff include administrators, security staff, front desk staff etc. The male female ratio of staff was 24:47 and was of an age range of 26 to 57 years (mostly between 30 and 40 years). Highly qualified physicians and managerial staff were working harmoniously in the clinic that adds value.

Training programs were required.

The facility designed for the purpose had a wide area to accommodate modern equipment.

This clinic attends to 150 patients a day.

Systems of co-ordination were the plus points in this clinic. Attendance records, school supplies, program management tools, cleaning materials record, equipment maintenance record, quality of staff performance and team work records were in place. There was a progressive approach in integrating instructions and decisions to improve the health services through annual report and its discussions. There was an interest in giving regard to contents of the annual report at implementation stage by way of managerial control mechanisms.

Case 11
Located at the city centre of Benghazi, this polyclinic was designed specially for the purpose with an aim to serve the population living around it. The total number of people working in this centre was 73 (54 medical staff and 19 non-medical staff). Medical staff (3 males and 51 females) and included general physicians, pediatricians, ophthalmologists, dermatologists, dentists, nurses, pharmacists, public health inspectors, lab technicians and radiographers. They were aged between 35 and 45 years with years of experience between 10 and 20 years. Non-medical staff team comprised 9 males and 10 females, with a median age of 30 years having experience range of 7 to 10 years. They were in charge of administration and secretarial functions.

The center had several items of equipment viz., ECG, Ultra Sound and dental sterilizer. The number of people seeking treatment in this centre was 50 a day.

The centre functioned without an attendance register even though all the staff reported at 8 o'clock in the morning and worked till 1 o'clock. There was no shortage of stationery supplied. There was regular cleaning of premises and file records were maintained well. Grievances were "No work load", "no team work", "no accommodation facilities", "insufficient training imparted" and "just a paid job". Center was managed by the Administrative Secretary, who networked with the Secretariat of Health.

This centre maintained an acceptable level of cleanliness and work efficiency. There was a supply of essential medicines.

Case 12
Located at the City Centre of Benghazi, this polyclinic had a total of 70 staff (63 medical and 7 non-medical). Medical staff included general physicians, ophthalmologists, dermatologists, gynecologists, dentists, nurses, radiographers, laboratory technicians and HMIS staff. A large majority of paramedical staffs were diploma holders. Non-medical staff had the majority in security and housekeeping. Twenty of them were males and 48 were females who were in an age range of 26 to 61 years; a mean of 35 years. They had experience ranging from 3 to 40 years.

Human resource development programs were literally absent in this clinic, as pointed out by the staff. A majority of personnel had higher qualifications, which was revealing in their high spirit of cooperation and participation towards achievement of a clear and common goal. Staff had gentle behavior and a cordial approach to beneficiaries, which facilitated goal achievement.

The building was specially designed and thus had sufficient space for accommodating equipment, mostly modern.

There was a high demand for this clinic as the number of patients per day was 400, beyond the optimum threshold. This created overcrowding and insufficiency of ventilation and lighting.

Records of attendance, stationery, personnel, cleaning program, equipment maintenance, monitoring of quality and employee performance and goal achievements were in place. Instructions and decision making to improve health system variables were integrated into the annual reports. But discussion on annual reports, task specialization and hygienic maintenance were weak.

Case 13
Located at Al Birka of Benghazi, this polyclinic had a total of 68 employees (15 males and 53 females), who were in an age range of 30 to 45 years (34 medical - 1 male and 33 females - 34 non-medical). Medical staff were general physicians, pediatricians, internist physicians, dentists, gynecologists, laboratory technicians, X-Ray technicians, nurses and pharmacists. Non-medical staff include 13 males and 21 females who were aged between 30 and 40 years. They were responsible for administration, secretarial work, computer operation, information system and record keeping.

The building was designed specifically for the purpose to accommodate equipment namely Ultra Sound, ECG and dental chair; all in functional condition. A total of 40 patients attended this centre on a day

from 8 am to 1 pm.

There was a filing system for administrative purposes. Annual reports were prepared on staff performance and were discussed. There was periodic maintenance of equipment and performance monitoring systems.

The administrative secretary contacts the Secretariat of Health for major decision making.

Case 14
Located at Al Birka zone of Benghazi, this polyclinic had 180 employees (135 medicalsand 35 non-medical). Medical staff were general physicians, dermatologists, pediatricians, gynecologists, dentists, nurses, dental assistants, laboratory technicians, physiotherapists, pharmacists and nutritionists. Non-medical staff were active in administration, front desk, security and secretarial functions. There was a gender balance in the workforce but the number of males and females were equal in the clinic. The age range of the workforce was 28 to 56 years, with a median age of around 38 years.

There were staff with high duration of experience in medical and administrative functions (up to 35 years), which brought a higher level of internal cooperation.

Poorly ventilated clinic premises created a smoky atmosphere even though the building appeared specially designed. There was congestion inside especially due to the availability of a number of modern equipment items.

The number of patients accessing this centre was around 150 in a day.

Records of attendance, stationery and supplies, program management information, maintenance of equipment, cleaning and hygienic activities, were maintained well. There was a good level of staff performance and teamwork which was integrated to create participative decisions. The carefully prepared annual reports contributed to improvement of quality of services. Contents of the annual report were discussed and incorporated regulations relevant for quality improvement.

Case 15
Located at Al Birka of Benghazi, this polyclinic was manned by a total of 120 people (100 medical and 20 non-medical staff). Medical staff were general physicians, gynecologists, dermatologists, dentists, pharmacists, laboratory technicians, dental technicians, physiotherapists, health visitors, public health assistants and nurses. Except for physicians, dentists and few pharmacists; others were diploma holders. Non-medical staff were in administrative, front desk and security functions.

A large majority of the staff was females (80 females as against 40 males); staff were in an age range from 27 to 50 years (with a majority falling between 35 and 45 years) and were experienced between 7 and 27 years.

Training opportunities were literally rare. Qualifications of the labor force remained high, but cooperation among workers was found to be low, both among the medical staff and non-medical staff. Safety measures and radiation protection measures were absent in the clinic.

The place was designed for the purpose and thus had adequate space. The poorly maintained clinic had short supply of stationery items, creating hurdles in administration. The number of patients accessing this clinic was 480 per week (80 per day).

Administrative systems viz., attendance record, personnel file, cleaning schedule, control programs, decision making process, quality improvement programs and annual reports were in place. There were discussions of annual report in presence of specialists and reforms were also actively implemented in the centre. There was a system of purchase of stationery and management tools in the clinic. But there was no record of maintenance contracts of equipment.

Case 16
A poly clinic located at Al Slawy zone of Benghazi city had a large building; staffed with 129 persons (116 medical and 13 non-medical). The labour force was highly qualified and experienced (2 to 33 years) showing co-operation and a level of coordination. They show good conduct and cordiality within the facility and had less differences of opinion regarding operations. There was an excellence in reception to facilitate access to services.

The director was supported by an administrative secretary who was highly educated and experienced. The clinic functions with good workmanship, where there was a level of discipline. The clinic operates from 8 am to 2 pm and from 5 pm till 12 midnight.

Passivity among physicians was observed.

There was a system of annual performance appraisals, which pave the way for decisions on bonuses and promotions. Still there were occasions of delay in this process because of the complexity of administrative procedures especially in decision making. A low level of external relationship building but honest efforts to train staff members and improve performance was observed. There was effective communication within the clinic.

The clinic had a shortage of medicines and lack of equipment.

This well designed clinic received 300 patients a day in two shifts. There was also a shortage of stationery, office equipment and periodic maintenance program.

Discussion

There was confusion in reception to facilitate access to services. Either, the front desk lacks job descriptions or they do not match role expectations. There was hardly any effort to welcome the patient or register their names, which were tasks at reception. Persons with experience in public relations fix such key positions, where the experience of primary health care staff shall

be appreciably utilized (6) but by bringing a parity in staff - patient ratio. Efforts are needed to analyze staff strength at different sections and thereafter patient load, which will pave the way for revamping the functional units.

The health/hospital administrators in Benghazi differ largely in knowledge, attitude and practice (7) demarcating the trained administrators from those untrained. The trained administrators mobilize PHC staffs' experience efficiently through 'process management techniques' characterized by controlling cost, improving best practice, offering a diverse portfolio of services and integrating soft factors into leadership quality (8). Making job descriptions clear to each staff will create efforts to place "square pegs in square holes", which leads to maximum performance. The technical competency of PHC staff requires upgrading in order to compensate for personal concerns like transportation and housing (6); as better fits with role expectations not personal grievances. Work efficiency increases while attending to personal concerns and grievances even though solutions are difficult. Primary healthcare facilities in Benghazi were resource intensive, unlike elsewhere, where they were resource thrifty, giving hope for influencing continuity, comprehensiveness, health education and effectiveness (9). Equipment maintenance at PHC level was adequate but deficient in some specific treatment areas (10), especially true in the case of Benghazi, requiring trained personnel, skill upgradation and maintenance contracts.

Improper arrangements of interiors create crowding and congestion, requiring rearrangement to incorporate customer concerns. This in turn facilitates designing strategies at reception, waiting, greeting and utility services (11).

An important complaint about management of the PHC system is that controlling functions are better performed than planning, organizing and directing functions (12). Along with insisting on behaviors, rewards and concerns of human behaviors like sentiments and secrecies are necessary for efficient management.

Necessary equipment and medicines were of help to the PHC clients rather than modern technology. This calls for simplification of medical procedures and diversion of resources.

Conclusion and Recommendations

The results of the study brings forward four points, namely (i) less professional strategic management even though efforts and resources were invested in operations (ii) manpower allocations and distributions were uneven so that there was no general criteria applied in terms of size, age, sex and experience (iii) efforts to grooming support team appears minimum and (iv) poor internal decorations or accumulation and arrangement of unnecessary equipment or ad hoc arrangements creating a limit on space.

It is recommended at this point, to make maximum benefit out of the cream of the PHC system, manpower and its dynamism, to gain trust of beneficiaries. Modern management techniques namely MBO and Benchmarking might take the system a long way. It is timely to develop uniform standards at least at Shaabiat level in Libya.

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