

Original Article

Frequent Attenders at a Primary Health Care Center in Kuwait

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ABSTRACT

Objectives: To determine the frequency of general practice consultations and study personal and health factors associated with frequent attendance

Design: Retrospective descriptive and case control study.

Setting: Al-Surra Family Practice Health Center (SFPC), Kuwait.

Subjects: Three hundred seventy-two adults categorized as "frequent attenders" (FA) were included as cases. Three hundred sixty-eight adults categorized as "non-frequent attenders" (NFA) represented the controls.

Main Outcome Measures: Frequency of attendance to polyclinic and associated factors.

Results: A total number of 16,068 patients made 77, 970 visits to the SFPC during 2003. Out of them, 932 FA made 14,970 visits. The median number of visits per FA patient was 16, whereas it was only four for NFA. Only 45.5% of

frequent attenders presented with symptoms while 17.7% attended for repeated medical prescription, and 18.3% showed up for check-up. Logistic regression analysis revealed that Kuwaitis, governmental employees, females in older age groups with chronic illness were more liable to be FAs in general. Among Kuwaitis, governmental job and chronic disease were detected as significant risk factors for being FA. Chronic diseases were the only predictors of FA among non-Kuwaitis.

Conclusions: 5.8% of the total number of patients were responsible for 19.2% of the visits to SFPC. Chronic illness correlated strongly with a high rate of attendance. Also socio-demographic factors, especially nationality, gender, age and job type were indicators of frequent attendance in general practice.

KEY WORDS: consultation, contributing factors, frequent attendance, general practice

INTRODUCTION

There is no clear relationship between health need in the population and the workload in primary health care. 4.5% of patients accounts for one-fifth of the general practitioner's workload. Many people with clinically recognized symptoms do not seek medical advice. This phenomenon can be attributed to a combination of psychological and sociological factors. On the other end of the spectrum, frequent attenders (FAs) are a category of patients who attend health practice frequently, taking up time and whose management is often expensive and difficult^[1]. Most studies determined frequent attenders according to the number of visits per year^[2,3]. Since there has been no adequate methodological approach developed to study the frequent attendance phenomenon, the results of the studies dealing with this problem largely differ^[4].

A patient usually makes a visit to a family practitioner for their objective healthcare needs. However, patients often make unnecessary visits for various reasons, when their health condition

does not objectively require attendance by a health care professional^[5]. The main objective of this study is to determine whether frequent attendance is a natural occurrence that is representative of one end of a normal distribution of attendance, or is it unacceptable behaviour by a group of patients that are taking advantage of the easy access to healthcare in Kuwait^[6].

The phenomenon of frequent utilization of health care services is a multidimensional problem which can be analyzed from various points of view^[7]. Some studies focused on socio-demographic factors associated with frequent patient visits^[8,9]. Where morbidity is concerned, the most important causes of frequent visits were chronic diseases^[10,11]. However, depressive and neurotic patients as well as severely ill patients make visits to physician's office more frequently^[9,12]. It has been well established that female gender, increasing age, physical and psychiatric morbidity are all important factors in determining frequent attendance^[1, 2, 13-15].

As the phenomenon of frequent attendance

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has not been extensively investigated in the Gulf region, this study could serve as a model for a better understanding of the use of primary health care in this territory.

This study also aims to describe the frequency of attendance in general practice, and to study the effects of a range of factors that may be related to frequent attendance in adults.

SUBJECTS AND METHODS

General Practice in Kuwait

Seventy seven primary health care clinics are available in all residential areas in Kuwait. Working hours are extended daily from 7am -11pm to 24-hour operating clinics. The appointment system is applied on a very limited basis. The majority of workload at the clinic is conducted on an open access basis, depending on the availability of the physicians. Private medical practices at the primary care level are scarce in general and not available in Al-Surra area where this investigation was conducted.

Setting

This study was conducted in SFPC in Kuwait which served 27,271 inhabitants in 2003. Eight full-time working physicians were employed. Al-Surra is characterized as being predominantly inhabited by Kuwaiti families with few non-nationals. The majority of non-Kuwaiti inhabitants are middle-aged manual workers, who depend on Kuwaiti families and are primarily employed as housemaids, baby-sitters, drivers, gardeners or guardsmen.

Definition of Frequent Attenders

The number of visits made by the population of subjects during the study year was determined. Consultations with a medical service provider that was not registered as a doctor were discarded and each visit to the clinic was treated as a single entity regardless of the number of problems presented during the consultations. The third quartile of the figure amassed was used to distinguish frequent attenders (FA) from non-frequent attenders. As a result, frequent attenders were defined as those who had participated in more than twelve consultations during the study year. Various reputable publications have utilized similar classification methods, allowing for a comparison of results to be made^[9,16,17].

Data Collection

The study design can be differentiated into two components. The first one was a descriptive study in which frequency of attendance from January to December 2003 inclusively was evaluated by reviewing the electronic database of the center.

The second component of the study was a case-control, which aimed to identify the main factors that influenced the frequency of attendance. Using the computerized database of the structure, all patients that attended the clinic during 2003 were listed. Frequent and non-frequent attenders (NFAs) were identified. For the purpose of comparison, 400 FA and a similar number of NFAs (control group), were selected randomly. Selected subjects were recalled for a structured interview and their records were reviewed manually for extraction of the required information.

Data abstracting were performed by trained staff using a data collection form which included information regarding any history of chronic illness, information about the last consultation and socio-demographic data, which was obtained from information already noted in patients' records. Data regarding the last consultation requested by the patient was analyzed, where the most significant complaint of the patient was considered. An inquiry about the presence of a chronic illness was made, as well as whether the chronic illness was under control or not. Patients were labeled as uncontrolled hypertensives if the mean of the last three measurements of systolic blood pressure was ≥ 140 mmHg and / or diastolic blood pressure was ≥ 90 mmHg. Patients were labeled as uncontrolled diabetics if the mean of the last three measurements of fasting blood sugar was ≥ 6.1 mmol/l. Other chronic diseases were considered as controlled, if patient was under medical supervision (treatment or specific regimen) and presented with normal figures during examination and / or investigation.

Patients were excluded from the study if they had a terminal disease or severe mental illness or they were pregnant during 2003. Also, patients who died during the study period were not included.

Collected data were sent to the Department of Health and Vital Statistics, Ministry of Health for processing and analysis.

Sample size:

Assuming that a hypothetical factor (e.g. presence of chronic illness) has a prevalence in the control subjects of 10% and is associated with an Odds Ratio equal to two or more, the number of cases required is 286 (with $\alpha = 0.05$ and $1 - \beta = 0.90$), with a similar number of subjects as controls^[18]. Thus the actual sample size of 400 cases would allow for reliable detection of risk factors which might have a prevalence varying more than 10% from the control group. Also, this would allow facing an expected non-response of recalled subjects of 25%.

Statistical analysis

The median was used to fulfill the descriptive

purpose of quantitative variables. For the case-control study, analyses were initially carried out to compare between FA and NFA groups based on a series of bi-variate comparisons. Differences between groups were detected by Chi square test for qualitative variables and Mann-Whitney test for quantitative variables.

For the possible confounding effect of the variables, multiple logistic regressions were used for the final analysis to predict factors which may contribute to frequent attendance (the main outcome of interest). In multivariate analysis, the associations between exposures and outcome were expressed in terms of odds ratios (OR) together with 95% confidence intervals (95% CI)^[19].

All the explanatory variables included in the logistic model were categorized into two or more levels (^R= reference category): Age (years): <30^(R), 30-39, 40-49, 50-59, ≥60; Sex: Male^(R), female; Nationality: Kuwaiti^(R), non-Kuwaiti; Marital status: Single^(R), married, divorced / widowed; Number of children: None^(R), 1-3, 4-6, ≥7; Education: Primary or less^(R), intermediate, secondary, high; Occupation: Not working^(R), manual, clerical, professional, student; Job type: Governmental^(R), non-governmental, others; Chronic illness: None^(R), yes controlled, yes uncontrolled. Standardization of age and sex had not been considered as it was preferred to enter them as covariates in the multivariate logistic model. Analysis was performed using Statistical Package for Social Sciences "SPSS-11 for Windows".

RESULTS

During 2003, a total number of 16,068 patients made 77,970 visits to the practice under the study. Out of them, 932 FAs made 14,970 visits. In other words, 5.8% of patients were responsible for 19.2% of the total number of visits. Overall, the median number of visits per patient in a single year was five. The median number of visits per FA patient was 16, whilst it was only four visits for NFA.

Socio-demographic details, the presence of chronic illness, together with the results of bivariate analyses are shown in Tables 1 and 2. The results of the bivariate analyses revealed that age, sex, nationality, marital status, number of children, occupation were significantly associated with frequent attendance ($p < 0.001$). The median age for FAs was 47 years compared 28.3 years in NFAs. Frequent attendance increased among older age groups and women. Females outnumbered males in all age groups except ≥ 60 years. After the age of sixty, more FAs were seen among males as compared to females (as seen in Fig. 1). Also, chronic illnesses, except skin diseases, were significantly associated with FA phenomenon.

Table 1: General characteristics of frequent attenders (372 cases) and non-frequent attenders (368 controls)

| Variables | NFA (n = 368) | | FA (n = 372) | | p*Value |
|---|------------------|------|-----------------|------|---------|
| | n | % | n | % | |
| Age: | | | | | |
| < 30 | 100 | 27.4 | 55 | 14.8 | < 0.001 |
| 30 - | 93 | 25.5 | 57 | 15.3 | |
| 40 - | 97 | 26.6 | 84 | 22.6 | |
| 50 - | 54 | 14.8 | 95 | 25.5 | |
| ≥ 60 | 21 | 5.8 | 81 | 21.8 | |
| Sex: | | | | | |
| Male | 145 | 39.4 | 100 | 26.9 | < 0.001 |
| Female | 223 | 60.6 | 272 | 73.1 | |
| Nationality: | | | | | |
| Non-Kuwaiti | 135 | 36.7 | 33 | 8.9 | < 0.001 |
| Kuwaiti | 233 | 63.3 | 339 | 91.1 | |
| Marital status: | | | | | |
| Single | 97 | 26.4 | 52 | 14.0 | < 0.001 |
| Married | 260 | 70.7 | 284 | 76.3 | |
| Widowed / divorced | 11 | 3.0 | 36 | 9.7 | |
| Number of children: | | | | | |
| None | 138 | 37.5 | 86 | 23.1 | < 0.001 |
| 1 - 3 | 120 | 32.6 | 76 | 20.4 | |
| 4 - 6 | 93 | 25.3 | 159 | 42.7 | |
| ≥ 7 | 17 | 4.6 | 51 | 13.7 | |
| Education: | | | | | |
| Primary or less | 86 | 23.4 | 80 | 21.5 | 0.07 |
| Intermediate | 44 | 12.0 | 55 | 14.8 | |
| Secondary | 86 | 23.4 | 111 | 29.8 | |
| High | 152 | 41.3 | 126 | 33.9 | |
| Occupation: | | | | | |
| None | 102 | 27.7 | 184 | 49.5 | < 0.001 |
| Manual | 114 | 31.0 | 33 | 8.9 | |
| Clerical | 74 | 20.1 | 88 | 23.7 | |
| Professional | 56 | 15.2 | 59 | 15.9 | |
| Student | 22 | 6.0 | 8 | 2.2 | |
| Working hours / day[#]: | | | | | |
| < 6 | 13 | 4.9 | 23 | 12.2 | < 0.001 |
| 6 - 8 | 170 | 63.9 | 145 | 77.1 | |
| ≥ 9 | 83 | 31.2 | 20 | 10.6 | |
| Type of job: | | | | | |
| Governmental | 118 | 32.1 | 146 | 39.2 | < 0.001 |
| Non governmental | 126 | 34.2 | 34 | 9.1 | |
| Others ^{\$} | 124 | 33.7 | 192 | 51.6 | |

NFA: Non-frequent attenders.

FA : Frequent attenders.

*: Chi square test was used except for age, number of children and working hours where Mann-Whitney test was used; #: Not working subjects were excluded; \$: Not working subjects and students

Non-Kuwaitis represented 36.7% of NFAs and only 8.9% of FAs. The total number of non-Kuwaitis (cases and controls) in this study was 168, among whom 122 were manual workers. Out of these workers, 114 patients were non-governmental employees who constituted 18 FAs and 96 NFAs.

A look at the general characteristics of the last visit to the clinic made by the subjects of the study showed that only 45.5% of FAs presented with specific symptoms whilst 17.7% and 18.3% attended for repeat medical prescriptions and regular check-ups respectively. The corresponding figures in

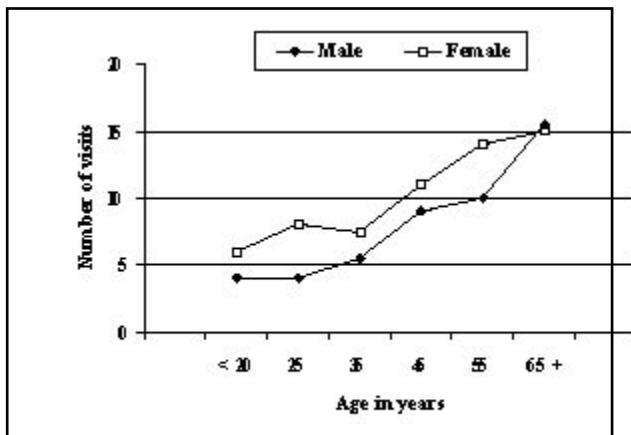


Fig 1: Median number of consultations per 12 months made by patients

NFA were 67.9%, 10.3% and 11.7% ($p < 0.001$). No significant difference regarding the type of symptoms in the two groups was detected. Chronic diseases were by far more frequent in FA than in NFA ($p < 0.001$) (Table 3).

Table 4 summarizes the results of multiple logistic regression analysis which predicted determinants of FA. Overall, frequent attendance was more encountered among Kuwaitis than among non-Kuwaitis (OR = 4.2, 95% CI: 2.3 – 7.9). Also it was more encountered amongst females (OR = 1.7, 95% CI: 1.2 – 2.5) and age groups “ 50 – ” and “ ≥ 60 ” as compared with those less than 30 years (OR = 2.0, 95% CI: 1.1 – 3.5) and (OR = 3.7, 95% CI: 1.7 – 7.8) respectively. Non-governmental employees were less liable to be FAs (OR = 0.3, 95% CI: 0.2 – 0.6). Patients with chronic illness, either controlled (OR = 2.7, 95% CI: 1.8 – 4.1) or uncontrolled (OR = 4.1, 95% CI: 2.4 – 6.8) were more liable to be FAs as compared to attenders free from chronic diseases. Among Kuwaitis, persons with non-governmental jobs are less liable to be FAs (OR = 0.3, 95% CI: 0.2 – 0.6). Presence of controlled or uncontrolled chronic illness were common predictor variables in both Kuwaiti (OR = 2.3, 95% CI: 1.9 – 4.2) , (OR = 4.7, 95% CI: 2.7 – 8.3) and non-Kuwaiti (OR = 7.0, 95% CI: 2.5 – 19.6) , (OR = 7.2., 95% CI: 2.5 – 20.7) groups respectively.

DISCUSSION

Frequent attendance to primary health care centers is an issue that needs to be addressed as it can potentially be a waste of valuable resources, especially time, leading to long waiting lists and a fall in the quality of a physician’s performance. This study showed that 5.8% of patients were FAs who made 19.2% of visits to the SFPC during the study year. A possible explanation of this situation in Kuwait could be found based on the family physician’s position in the health care system and health care regulations which may have influence

Table 2: Proportion of chronic illness among frequent attenders (372 cases) and non-frequent attenders (368 controls)

| Chronic illness | NFA (n = 368) | | FA (n = 372) | | p*Value |
|---------------------------|---------------|------|--------------|------|---------|
| | n | % | n | % | |
| Hypertension | 71 | 19.3 | 160 | 43.0 | < 0.001 |
| Cardio-vascular diseases | 16 | 4.3 | 53 | 14.2 | < 0.001 |
| Diabetes mellitus | 55 | 14.9 | 133 | 35.8 | < 0.001 |
| Urinary tract disorders | 1 | 0.3 | 9 | 2.4 | 0.01 |
| Bronchial Asthma | 24 | 6.5 | 57 | 15.3 | < 0.001 |
| Skin diseases | 8 | 2.2 | 4 | 1.1 | 0.24 |
| Gastrointestinal diseases | 7 | 1.9 | 28 | 7.5 | < 0.001 |
| Psychological disorders | 2 | 0.5 | 9 | 2.4 | 0.04 |
| Musculo-skeletal diseases | 3 | 0.8 | 29 | 7.8 | < 0.001 |

*: Chi square test
 NFA: Non-frequent attenders
 FA: Frequent attenders

on the number of visits. Also, the cost of frequent health seeking behaviour is relatively low, as medical services are free and easily available. As in many other countries, patients who need specialist healthcare must be referred from family practice center^[20]. Thus, FAs would consume health care on two levels (primary and secondary), undergo more unnecessary specialist examinations and receive more unnecessary prescriptions which all increases the number of visits to family practice office^[2,10].

Our results are consistent with the results from other studies which have used similar criteria for defining FAs. The Fourth National Survey of Morbidity and General Practice (MSGP4), carried out in the UK in 1995 showed that the most frequently consulting patients were 4.7% and they used 21% of consultations over one year^[21]. A similar study was carried in Croatia which showed that 23% of patients were FA and made 60% of visits^[7]. In Slovenia, FA constituted 24% of the total number of patients and made 54.8% of visits^[9]. Similarly, 20% and 25% of FAs in England and Finland made 50 and 55% of visits respectively^[3,8].

In this study, the median number of visits per patient was five. The corresponding number in Croatia, the Netherlands and Japan was 4.1, 5.7 and 5.6 respectively^[10,22]. Accordingly, the phenomenon of frequent attendance is present in Kuwait as in most other countries.

The results of this study show a significant difference between FA and NFA groups regarding the cause of last attendance. A lower proportion of symptomatic patients and higher percentage of patients who attended for medical prescriptions and periodic check-ups was found in FAs as opposed in NFAs. These results are in concordance with those of Browne, *et al* who identified high prescribing

Table 3: Reason for the last visit, complaint and type of the diseases among frequent attenders and non-frequent attenders

| Variables | NFA | | FA | | p*Value |
|--|-----|-------|-----|-------|---------|
| | n | % | n | % | |
| Main reason for the last visit: | | | | | |
| Check-up | 43 | 11.7 | 68 | 18.3 | < 0.001 |
| Medicine prescription | 38 | 10.3 | 66 | 17.7 | |
| Presence of symptoms | 250 | 67.9 | 169 | 45.5 | |
| Others | 37 | 10.1 | 69 | 18.5 | |
| Total | 368 | 100.0 | 372 | 100.0 | |
| Main complaint: | | | | | |
| Pain | 122 | 45.9 | 113 | 51.8 | 0.18 |
| Fever | 32 | 12.0 | 14 | 6.4 | |
| Others | 91 | 34.2 | 74 | 34.0 | |
| Unexplained | 21 | 7.9 | 17 | 7.8 | |
| Total | 266 | 100.0 | 218 | 100.0 | |
| Type of the disease: | | | | | |
| Acute | 187 | 62.8 | 114 | 35.0 | < 0.001 |
| Chronic | 111 | 37.2 | 212 | 65.0 | |
| Total | 298 | 100.0 | 326 | 100.0 | |

*: Chi square test

NFA: Non-frequent attenders

FA: Frequent attenders

rates among a number of occasions associated with frequent attendance^[23]. This is a particular issue in Kuwait, as no more than a month's supply of medications can be prescribed by a doctor working in a governmental institution.

Multivariate analysis revealed that a variety of socio-demographic factors and chronic illness can strongly predict if a patient is destined to become a FA. There were more FAs among older age groups and women, a finding which is similar to that of other studies^[4,10,24] Some studies have even established that high attendance rates are prevalent amongst elderly women specifically^[11,24,25]. The number of women amongst FAs was particularly marked in the below fifty years age group.

The predominance of women and senior consultants is a universal phenomenon. Women of this age are often both wage-earners and have great responsibility for care of their family. Duplication of work and the role of women in society is a possible cause of their higher morbidity^[26,27]. Women were thought to be more willing to report symptoms and feelings and being more familiar with the staff and setting^[6] Although, it is also possible that elderly women represent a significant proportion of FAs as they tend to have a longer life expectancy. Older age is associated with an array of health problems and thus senior citizens constitute a large proportion of visitors.

There was a vast difference in the number Kuwaitis and non-Kuwaitis attending the clinic. Kuwaiti patients are 4.2 times more liable to be FAs

Table 4: Factors associated with frequent attendance in general practice: result of multivariate logistic analysis

| Variable | Overall | | Kuwaiti | Non-Kuwaiti |
|-----------------------------|---------|-------------|-----------------|------------------|
| | OR | 95% CI | OR | OR |
| Nationality: | | | | |
| Non-Kuwaiti ^(R) | 1 | | --- | --- |
| Kuwaiti | 4.2 | (2.3 – 7.9) | | |
| Sex: | | | | |
| Male ^(R) | 1 | | NS | NS |
| Female | 1.7 | (1.2 – 2.5) | | |
| Age: | | | | |
| < 30 ^(R) | 1 | | | |
| 30 – | 1.0 | (0.6 – 1.7) | | |
| 40 – | 1.2 | (0.7 – 2.0) | NS | NS |
| 50 – | 2.0 | (1.1 – 3.5) | | |
| ≥ 60 | 3.7 | (1.7 – 7.8) | | |
| Type of job: | | | | |
| Governmental ^(R) | 1 | | 1 (0.2 – 0.9) | |
| Non governmental | 0.3 | (0.2 – 0.6) | 0.4 (0.4 – 0.9) | NS |
| Others \$ | 0.5 | (0.3 – 0.7) | 0.6 | |
| Chronic illness | | | | |
| None ^(R) | 1 | | 1 (1.9 – 4.2) | 1 |
| Yes controlled | 2.7 | (1.8 – 4.1) | 2.3 | 7.0 (2.5 – 19.6) |
| Yes uncontrolled | 4.1 | (2.4 – 6.8) | 4.7 | 7.2 (2.5 – 20.7) |

^(R) = reference category ; NS = Non significant; OR = odds ratio

CI = confidence interval

\$: Not working subjects and students.

Variables included in the models: Age, sex, nationality, marital status, number of children, education, occupation, type of job and presence of chronic illness

as compared with non-Kuwaitis. Another finding which may be correlated with nationality is that non-governmental employees were less prone to be FAs. Due to these results, together with the finding that non-governmental, non-Kuwaiti, manual workers are mostly NFAs (84.2%), a multivariate analysis model was conducted for each of the Kuwaiti and non-Kuwaiti patients. This revealed that the presence of chronic illness was the only predictor of frequent attendance among non-Kuwaitis. This is probably due to the fact that health care is free for Kuwaiti citizens, whereas non-Kuwaitis pay health insurance and a fee depending on the procedure. Also, the fact that non-Kuwaiti inhabitants of Al-Surra area are mostly non-governmental manual workers explained that this category of low income subjects did not attend the practice unless they had disease manifestations. In addition, these subjects are mostly middle-aged and healthy. All these factors would influence the rate of attendance, especially the financial consequences, as most immigrant workers tend to go back home when diagnosed with a chronic illness.

Thus it can be hypothesized that an introduction of similar fees to Kuwaiti would be a deterrent to high consultation rates, though they would be unacceptable. A better approach is to provide a balance between easy access to health care and insuring that it is not taken for granted by making it

clear when it is appropriate to see a physician.

Chronic diseases, such as hypertension, cardiovascular and diabetes were by far more encountered in FA (69.4%) than in NFA (34.8%). Patients with long-term conditions had high risk of frequent attendance, especially those with uncontrolled diseases who needed frequent follow-up visits and presented the necessary and proper aspects of frequent attendance phenomenon. In fact, the decisive factor for frequent visits was not severity of chronic disease, but administrative and social requirements imposed on the physician and chronically ill patient. In other words, most of these consultations are physician initiated as part of planned follow-up. However, patient usually assesses his or her condition as more serious than the physician does^[28]. As chronic physical illness appeared to be a major factor, perhaps a better strategy for chronic disease management will relieve the problem of unnecessary frequent attendance^[11].

Conversely, frequent attendance can be viewed as an indicator of better healthcare, as patients with chronic illnesses, whose management is often difficult and compliance to treatment is poor receive more support and care from physicians.

Kuwait had 1.6 physicians per 1000 population in 2003, which is one of the highest rates in the region and is greater than that in some developed countries^[29]. Our opinion is that it is necessary to introduce better managerial strategies that filter out unnecessary consultations. Unfortunately, we did not have opportunity to examine physician factors although several factors related to the physician may influence the attendance rate^[2,3]. It was suggested that the general practitioner plays a role in the initiation, maintenance and course of frequent attendance in general practice^[25]. Also, psychiatric profile of FA needs to be studied. Several studies have shown that FA in primary health have high rates of psychiatric disorder in comparison with normal attenders^[30].

Although the study was carried out in a single practice, the general characteristics of the practice and the study population shared many features of all health structures available in all residential areas in Kuwait. However, a multi-centric study of all factors associated with frequent attendance to primary health practice including patient beliefs and perceptions of health and health services as well as an examination of physician- patient relationship is recommended.

CONCLUSIONS

Chronic illnesses mostly dictate high consulting attendance. Also, socio-demographic factors, especially nationality, gender, age, occupation were indicators of frequent attendance in general

practice. The phenomenon of frequent attendance is present in Kuwait as in most other countries. Further investigations would reveal more about the causation of frequent attendance and whether it is a problem that requires the attention of health systems regulators.

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