Morbidity pattern in an Outpatient Clinic of general Internal Medicine

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Abstract

Background : Specialist outpatient services are conducted for the purpose of the management of conditions which require specialist opinion above that available within primary healthcare setting, , the aim of this study is to assess the morbidity pattern in an outpatient clinic of internal medicine.

Method: This is across-sectional study done in an outpatient private clinic in Kirkuk city in Iraq, diagnoses were made on private outpatient base by history, clinical examination and lab. Investigations which were collected retrospectively from patient,s profile recorded in the clinic.

Results: Atotal number of 1323 patients was studied, of patients 605(45.7%) were male and 718(54.3%)were female, disease prevalence was recorded according to systems involved in order of frequency (cardiovascular, endocrine and respiratory system…..etc) and according to disease entity in order of frequency(hypertension, diabetes mellitus and urinary tract infection…..etc).

Conclusion: knowledge of most common morbidity in acommunity and the burden of these diseases on it, will promote development of best plans to put in community for better prevention and treatment of common diseases to attain better lifestyle and good health.

Keywords: outpatient clinic,morbidity ,general internal medicine

Introduction

In the recent years, the development of electronic medical records and the administrative databases has facilitated studies on prevalence of diseases in populations in the entire regions [1]. Specialist outpatient services are conducted for the purpose of the management of conditions which require specialist opinion above that available within primary healthcare setting, This will include: The diagnosis of conditions not able to be provided by the referring practitioner and/or the provision of treatment and management of complex conditions [2]. There is increasing trend to reduce the length of stay in the hospital and to manage complex conditions in outpatient setting, this transition is driven not only to reduce the cost but also by the availability of new outpatient facilities, such as imaging and percutaneous infusion catheters for the long-term antibiotics or nutrition, and by evidence that outcomes are improved by reducing inpatient hospitalization [3]. While the waiting time is an important issue in an outpatient clinic, the patients appear reasonably satisfied if they wait no more than 37 minutes-in an outpatient clinic- when arriving on time, and no more than 63 minutes when are late for appointments. Patients coming up to 15 minutes early are prepared to take the full responsibility for the extra waiting caused, but the patients coming even earlier intend to be seen earlier and are prepared to wait 15 minutes longer than otherwise(4). Quality of health services in an outpatient clinic includes technical (clinical) quality and functional (non-clinical) quality. The former focuses on skills, accuracy of procedures and medical diagnosis while the latter refers to the way that health services are provided to patients(5) The health care system depends on the availability, affordability, efficiency, feasibility, and other factors [6]. Information on the demographic characteristics and morbidity patterns will help in the determining what diseases were common in different age groups and genders [7]. Evidence derived from studies conducted in developed countries indicates that due to morbidity, part of expected life is liable to be lost through incapacitation [8]. Reliable information on the morbidity and mortality is the key for evidence-based public health practice [9]. Morbidity pattern denotes healthcare utilization and it is important for healthcare resources allocation and the planning [10].The aim of this study is to categorize the morbidity pattern in an outpatient clinic of general internal medicine.

Method:

This is across sectional study performed in general internal physician outpatient clinic in Kirkuk city-Iraq, during the period from January 1-2020 to December 31-2021, examination and investigations were made on outpatient base, and diagnosis was made by history, clinical examination and laboratory investigations , repeated cases of same complaint by same patient were excluded from the study, the study was done during the four seasons of the year (winter, spring, summer and autumn), informations were collected from the patients about age, sex , complaint and lab. Investigations, these informations were collected retrospectively from patient's profile in the clinic. The diseases were classified

according to system affected (e.g. cardiovascular, endocrine and respiratory system) and so on in order of frequency, and also diseases were classified according to disease entity and frequency (like hypertension, diabetes mellitus and urinary tract infection), the study include communicable and non communicable diseases, communicable diseases like acute gastroenteritis, acute peptic ulcer, upper and lower respiratory tract infections, while non-communicable diseases like hypertension, diabetes mellitus and coronary artery disease, statistically SPSS system –version -26-was used for data analysis, in which the data was expressed as percentage and total numbers.

Result:

a total number of 1323 patients were attending the clinic of the patients; 605(45.7%) were male and 718(54.3%) were female, with age incidence of 14-92 years.

systems involved in order of frequency were: cardiovascular [number of patients was 486 (36.7%)], endocrinology [number of patients was 216 (16.3%)], and respiratory[number of patients was 179 (13.5%)] and so on, and under each system ,most common diseases in order of frequency also recorded Table-1, while most common diseases, among all systems, in order of frequency were; Hypertension (333 , 25.1%),Type2 diabetes mellitus(178 , 13.4%),and urinary tract infection(106 , 8%) and so on ,table-2.

Table(1) :- Illustrates the systems involved in order of frequency and most common diseases in each system.

Systemic	Common Diseases	No.	(%)
1- Cardiovascular	Hypertension	333	25.1
	Ischemic heart disease	95	7.1
	Heart failure	39	2.9
	others	19	1.6
	Total	**486**	**36.7**
2- Endocrinology	Type2 DM	178	13.4
	Type1 DM	22	1.6
	Hypothyroidism	6	0.5
	others	10	0.8
	Total	**216**	**16.3**
3- Respiratory	Acute bronchitis	70	5.3
	Non-allergic asthma	52	3.9
	others	57	4.3
	Total	**179**	**13.5**
4- Renal	Urinary tract infection	106	8
	Renal stone	31	2.3
	Chronic renal failure	6	0.5
	others	4	0.3
	Total	**147**	**11.1**
5- Gastro-intestinal system (GIT)	Irritable bowel syndrome	44	3.3
	Acute gastroenteritis	32	2.4
	others	11	0.8
	Total	**87**	**6.5**
6-Neurology	Cerebrovascular accidents	36	2.7
	Peripheral neuropathy	10	0.7
	others	12	0.9
	Total	**58**	**4.3**
7- Rheumatology	Cervical osteoarthritis	20	1.5
	Cervical disc prolapse	13	0.9
	others	12	1.0
	Total	**45**	**3.4**
8- Metabolic	Hyperlipidemia	35	2.6
	others	0	0
	Total	**35**	**2.6**
9- Infectious diseases	Typhoid fever	20	1.4
	Brucellosis	6	0.5
	others	0	0

	Total	**26**	**1.9**
10- Liver and billiary system	Gallstone	8	0.6
	Acute cholecystitis	4	0.3
	others	4	0.3
	Total	**16**	**1.2**
11- Haematology	Anemia	10	0.7
	Polycythemia	3	0.2
	others	2	0.2
	Total	**15**	**1.1**
12- Psychiatry	Tension headache	5	0.3
	Anxiety neurosis	3	0.2
	Depression	3	0.2
	others	2	0.2
	Total	**13**	**0.9**
Total		**1323**	**100%**

Table(2):- Illustrates most common diseases in frequent order.

Disease		Patients number	Percent %	Male	Female	Ratio M:F	Age incidence (yrs)
1	Hypertension	333	25.1	125	208	1:1.6	22-92
2	Type2 DM	178	13.4	70	108	1:1.5	22-90
3	Urinary tract infection	106	8	24	82	1:3.4	14-85
4	Ischemic heart disease	95	7.1	70	25	2.8:1	30-84
5	Acute bronchitis	70	5.3	40	30	1.3:1	15-86
6	Non-allergic asthma	52	3.9	26	26	1:1	16-75
7	Irritable bowel syndrome (IBS)	44	3.3	22	22	1:1	21-75
8	Heart failure	39	2.9	21	18	1:1.1	24-84
9	Cerebrovascular accident	36	2.7	21	15	1.4:1	35-90
10	Hyperlipidemia	35	2.6	21	14	1.5:1	33-73

Discussion:

Categorization of diseases according to system involved was done (table-1), while the most common diseases among systems in order of frequency was also illustrated(table-2); the two most common systems involved were the cardiovascular and endocrine systems , this due to the world wide most common diseases involved in these two systems which are hypertension(11) and diabetes(12) respectively, In the top of systems involved was the cardiovascular system which is a worldwide most common system involved, cardiovascular diseases are the most frequent cause of death in adult population in the western world, and it will soon become the most common cause of death worldwide(13).Of the cardiovascular disease (hypertension, ischemic heart disease and heart failure) ; hypertension, which in our study has prevalence of 25.1%,which is

consistent with other study which showed that hypertension affects 20-30% of adults, the level of blood pressure depends on the age and the ethnicity of population studied, and is more higher in the black Africans(40-45%)of adults(14).Regarding ischemic heart disease(IHD); our study shows aprevalence of 7.1% with male predominance, and other study showed aprevalence of 7.9% in men and 5.1% in women(15) , while heart failure, which has prevalence of 2.9% in our study, while other study refers to that heart failure is a disease of the elderly people with more than 75% of new cases occure above 65 yrs of age, the prevalence of heart failure is less than 1% in people of below 60yrs of age and rising to about 10% in those above 80 yrs of age(16) , which is similar to our study. While the 2nd most common system involved was endocrine system and 2nd most common disease among diseases frequency was Type2 diabetes ,which previously referred to as non-insulin-dependent diabetes or adult onset diabetes, accounts for 90-95% of all the cases of diabetes (17).In our study the prevalence of diabetes(both type1 and type2) is 15%. In December 2011, the International Diabetes Federation reported that, of ten countries with the highest prevalence of diabetes in adults aged 20–79 years, six were in Middle East, ie, Kuwait (21.1%), Lebanon (20.2%), Qatar (20.2%), Saudi Arabia (20.0%), Bahrain (19.9%), and the United Arab Emirates (19.2%). Iraq is considered as having a medium prevalence (9.3%) of diabetes in Middle East based on surveys from 2006 to 2007, Diabetes was also found to affect 21.9% of Iraqis living in Sweden in 2010, In astudy of adults in Basra, Southern Iraq, they found that one in five people had diabetes.(18).

Urinary tract infection was the 3rd most common disease (and renal system was the 4th system involved) with evident female dominance ,and prevalence of 8% and age incidence of 14-85yrs in our study,this is consistent with other study which showed that approximately 50-70% of women have an episode of urinary tract infection during their lifetime,the prevalence increases about 1% per decade of age, so about 10% of women are bacteruric above the age of 70 yrs(19).

Acute bronchitis and non-allergic asthma are the 5th and 6th most frequent diseases(while the respiratory system is the 3th most frequent system involved). In acute bronchitis(with prevalence of 5.3% in our study) Viruses appear to be main causative agent, causing up to 95% of cases of acute bronchitis in otherwise healthy adults with prevalence of 5% in other study (20), while non- allergic asthma(with prevalence of 3.9% in our study) is consistent with other study(21). IBS is the 7th most frequent disease in our study(and GIT is the 5th system involved in our study),The prevalence of IBS within acommunity is between 10% and 25%. Meta-analysis shows a pooled estimate of international IBS prevalence of 11.2%,with variation by geographic region; lowest occurring in South Asia (7.0%) and highest in South America (21.0%).in most populations, women report approximately 1.5- to 3-fold higher than those in men, This relative difference reflects an absolute difference in prevalence of just over 5% between the sexes, with the prevalence in women of 14.0%, compared with 8.9% in men, In South Asia, South America, and Africa, rates of IBS in men are much closer to those of women, and in some cases is higher(22),this is consistant with our study in which the prevalence in men and women is equal, and the prevalence in our study is 3.3% ,this low prevalence is explained by more consultation of women with IBS symptoms to female gynecologists due to certain social considerations , and to gastro-enterology clinic by both sexes, and less frequent consultation to general internal medical clinic.

Strok, the 9th most common disease(while neurology was the 6th system in our study) is the leading cause of achronic disability,asecond leading cause of dementia, and the fourth leading cause of death in United States ,In the U.S., the prevalence of stroke is roughly 3% in adult population, which translates to approximately 7 million individuals(23), this is similar to our study in which the prevalence of stroke is 2.7% . Hyperlipidemia- the 10th most frequent disease in our study(and the metabolic system was the 8th system involved)with prevalence of 2.6% which is less than other studies(24), the reason is that we did not do apopulation screening like other studies which will demonstrate the actual prevalence, but we did lipid profile only to patients with risk factors like those complaining of hypertension, diabetes,obesity or ischaemic heart disease.

The least systems prevalence were; liver and biliary system(1.2%), haematology(1.1%),and psychiatry(0.9%), this is because these patients are visiting surgery, haematology and psychiatry clinics respectively more frequent than internal medicine clinics.

Conclusion:

the most two common systems involved were the cardiovascular and endocrinology, while the two most common diseases were hypertension and type-2 diabetes, so knowledge of most common morbidity in acommunity and the burden of these diseases on it, will promote development of best plans to put in community

for better prevention and treatment of common diseases to attain better lifestyle and good health.

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