A CROSS-SECTIONAL RESEARCH TO DETERMINE THE DISEASE PATTERN WITH THE INVOLVEMENT OF THE PATIENT'S DEMOGRAPHICS & CLINICAL OUTCOMES

[1]Dr. Sobia Jabeen, [2]Dr Aaisha, [3]Dr Mutahira Mannan
[1]Medical Officer, BHU 59 MB
[2]DHQ Hosptal Okara
[3]Sheikh Zayed Hospital Lahore

Abstract:
Objectives: Based on the symptoms and clinical findings, the exploration of patterns of diseases at a local territory hospital was useful. The focus of the study was to determine the disease patterns and associated demographics for different organic systems at a primary healthcare centre.
Methods: This was a cross-sectional research conducted at Services Hospital, Lahore. Some secondary information worked out through OPD register for a period of six months (01 March to 30 August 2017). The purpose of the study was to find out the age, sex and organ system wise distribution of different illnesses.
Results: The males and females who participated in the research were 1024 (43.4%) and 1333 (56.6%) respectively. The total sample size was 2375 patients. The age group of (15 – 49) years contained the maximum patients 1057 (44.8%). Only 96 (4.1%) patients were infants of less than 1 year. The number of fresh patients was 2204 (93.5%); whereas, 153 patients were having their follow-ups. Most of the patients were suffering from respiratory diseases 735 (31.2%). The prevalence of some disease was more common in females than in males. Those systems include the musculoskeletal system (Females 257 and males 113), respiratory system (Females 377 and Males 358) and specifically the genitourinary system (Females 50 and Males 5).
Conclusions: The research was successful in establishing a relationship between the disease patterns and demographics of the patients. Based on this research, the health facilities at the hospital are improveable for the most prevailing and recurrent diseases. Also, the patients' management to divide the burden at a local healthcare centre is very helpful.
Keywords: *Organ Systems Involved, Presenting Symptoms and Out Patient Department (OPD).*

Corresponding author:
Dr. Sobia Jabeen,
Medical Officer,
BHU 59 MB

QR code

INTRODUCTION:

The calculation of the magnitude of the diseases for a targeted sample on the basis of symptoms and organs involved is very useful. This research used for elimination of chronic diseases and exploration of the disease patterns that can help to obtain the Sustainable Development Goals (SDGs) to reduce poverty [1]. The general populations residing at remote locations in developing countries often face bacterial and viral diseases and results in the loss of life [2]. The need is to assess the prevalence and types of diseases to initiate an effective health care policy.

Same is the case with Pakistani patients where basic health facilities are lacking in rural areas and becoming a challenge for health administrators. The assessment of the disease pattern is vital for load distribution and availability of related healthcare facilities at a particular location. The symptoms for different diseases differ with age groups and diseases are not identifiable by the symptoms only. The clinical results showed that the development of diseases in adults are more complicated, heterogenic in indications and associated with a higher rate of mortality than children [4].

Pakistan is the 6th largest country of the world in a ranking of the population [5]. The Pakistani citizens residing in overcrowded geographical locations inside Pakistan are at more risk of developing health problems. The non-availability of pure drinking water to a large population is contributing to many diseases [7] and the rate of mortality among Pakistani infants have now reached 54/1,000 births [6]. Out of 3000 operational health care centres, 2500 are basic health units where the patients approach first in cases of diseases [8].

The disease patterns scrutinized on the basis of patients' age, gender, apparent indications and involved organs. The categorization of diseases needed for burden distribution. Such practice was in use in India, UK, South Africa and Malaysia [10 – 13]. The 6 months' information of patients was helpful in setting up of policies for disease management and control. The morbidity and mortality of diseases minimized by the distribution of burden according to the type of disease.

MATERIALS AND METHODS:

This was a cross-sectional research conducted at Services Hospital, Lahore. Some secondary information worked out through OPD register for a period of six months (01 March to 30 August 2017). The purpose of the research was to find out the burden and distribution of diseases. The data accessed was confidential and ethical issues kept in mind during data analysis. A pre-designed form containing the demographics and disease information for each patient filled for each patient according to the available data. The symptoms and the indications of the diseases and morbid organs studied for the patients' data classification. The data analysis for the research completed by SPSS.

RESULTS:

The number of patients studied during the 6 months record were 2357 patients. The female patients dominated the male patients in number (1333 (56.6%) were females and 1024 (43.4%) were males). The number of patients who paid their first visit to the hospital during the research period were 2204 patients (93.5%) and follow up patients were 153 patients (6.5%). The organs and associated symptoms noted for each case. Most of the patients were having respiratory system diseases 735 (31.2%). Subsequent major disease related to musculoskeletal system. Skin-related disease patients were 367 patients (15.6%). Gastrointestinal abnormalities observed in 348 patients (31.2%). Fever with unknown reason noticed in 90 patients (3.8%). Heart-related disease symptoms observed in 87 patients (3.7%). Accident cases were 72 patients (3.1%). Allergic and genitourinary systems were involved in 69 (2.9%) and 55 (2.3%) patients respectively. Ophthalmic and dental problems were reported in 36 patients (1.5%) and 42 (1.8%) patients respectively. The least involved organs were Ear, nose and throat (ENT related systems) having only 11 patients (0.5%). Tabular data provide the detail of the classification of disease distribution in relation to symptoms and organs.

Some systems were more common in females as compared to males. These include a musculoskeletal system, respiratory system and genitourinary system. Male accidental cases were more common than female accidental cases. Chi-square test applied to ascertain the significance of organ system in relation to gender distribution and p-value of 0.000 showed high significance.

Table – I: Gender Distribution

Gender	Number	Percentage
Male	1024	43.45
Female	1333	56.55
Total	2357	100.00
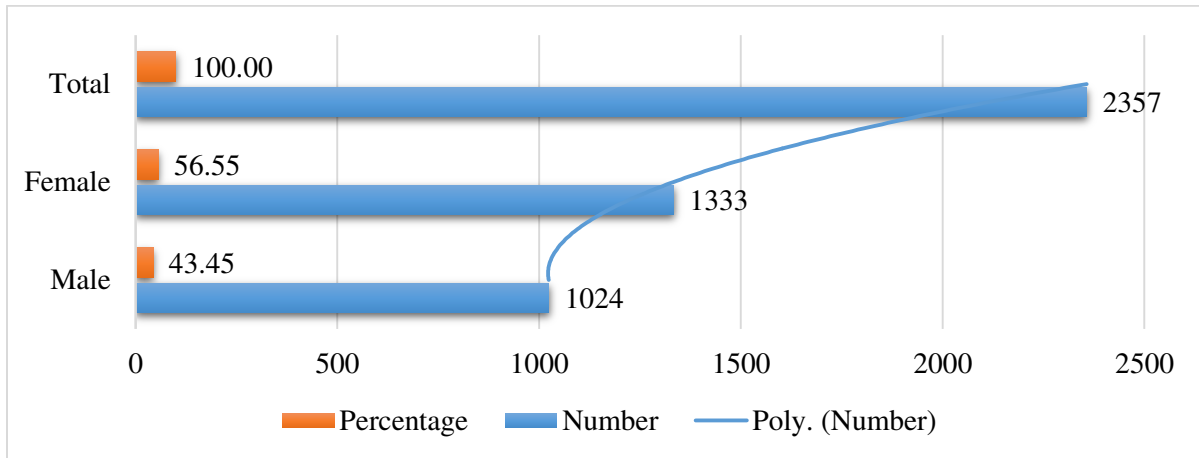
Table – II: New and Follow-Up Cases

Cases	Percentage
Follow-Up Cases	93.5
New Cases	6.5
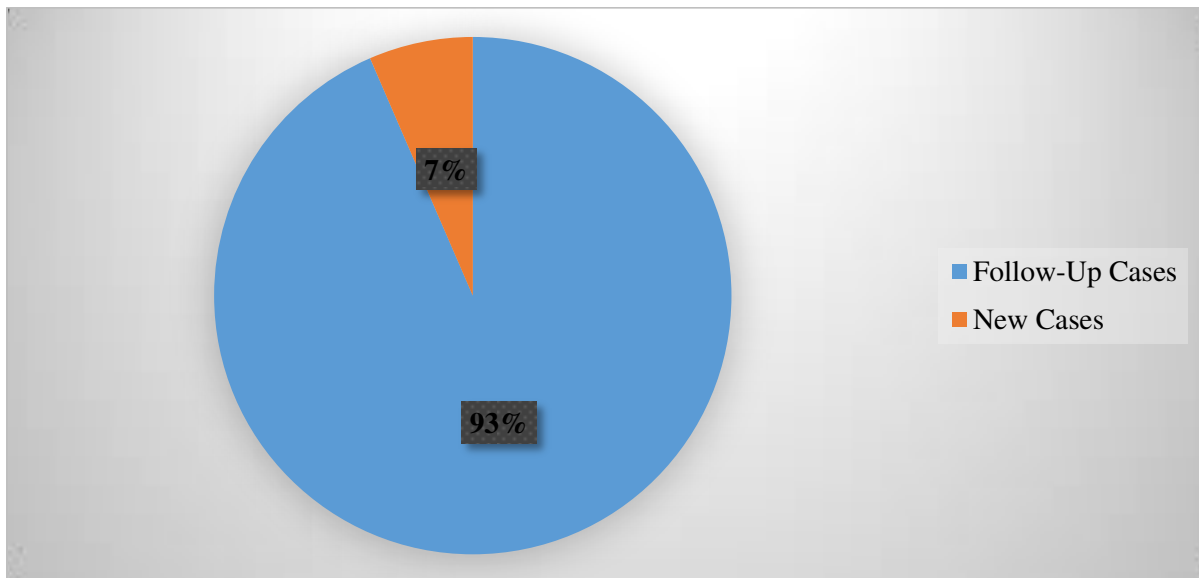
Table – III: Organ Systems Involved

Organ System Involved	Number	Percentage
Respiratory System	735	31.2
Musculoskeletal	370	15.7
Dermatology	367	15.6
GIT	348	14.8
Pyrexia of Unknown Origin	90	3.8
CVS	87	3.7
Others	76	3.2
Accidental Cases	72	3.1
Allergy	68	2.9
Genitourinary	55	2.3
Dental	42	1.8
Eye	36	1.5
Ear	11	0.5
Total	2357	100
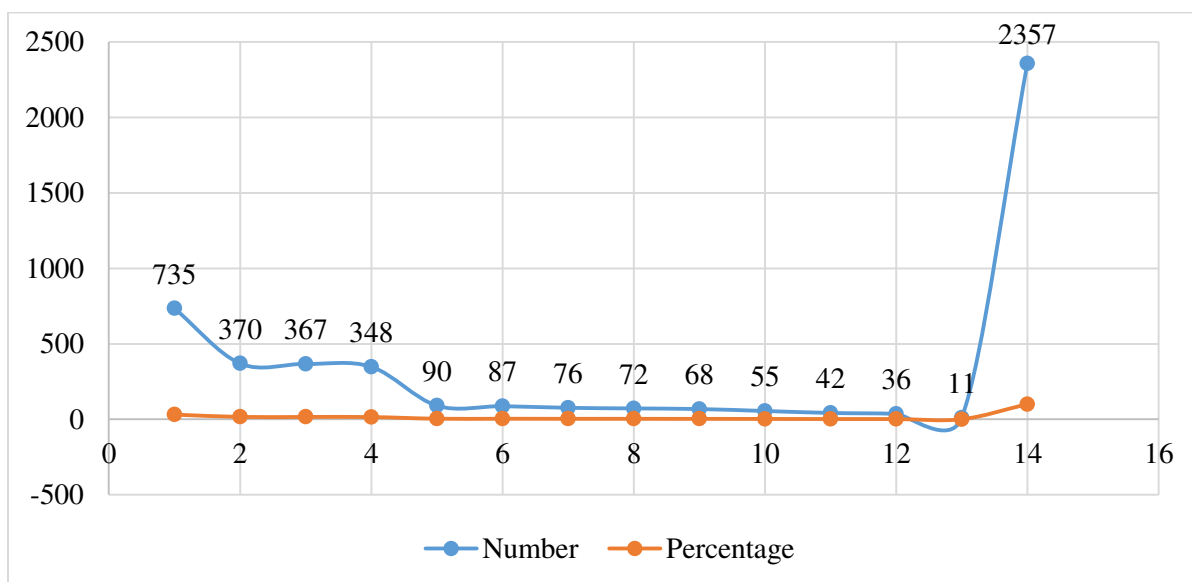
DISCUSSION:

The study highlighted the disease pattern and distribution of disease according to age and gender during the 6 months' time of the research. The patients report at the Basic Health Unit for initial medical review. The study is vital because the distribution and type of diseases at local healthcare facilities are useful for shifting of patients' burden to the other available medical facilities in the vicinity and also useful for formulating the policies for diagnosis and management of diseases. The numbers of patients studied during the research period were 2357 patients. The backdrop of research is a well-populated area with a population of 72724 [9]. The patients studied during the research were 2375 which is 4.4% of the population. The number of patients is small because other healthcare facilities are operating in the locality. Moreover, some patients directly go to the territory hospitals in other districts and some mistreated by the quacks. Lack of awareness also leads to low patients' turnover. Some patients do not go for medical advice in spite of the disease symptoms.

The males and females studied in the research were 43.4 % and 56.6 % respectively. The most common diseases were respiratory system diseases, cold [14], musculoskeletal pains [15] and skin related diseases

[16]. The tolerance for symptoms in females is generally lower than males which may be a reason for the prevalence of diseases in females. Another factor to the cause of more female patients are that the males are busy at their job and they are entitled to different hospitals whereas the women have no choice of healthcare facilities. In addition, females get admission for pregnancy and childbirth and they face complications which are likely to develop during their pregnancies [16]. The study showed that most of the patients are from age group 15-49 years which support our argument. The females have to visit the healthcare facilities many times during their pregnancy, hence the more female visits are normal. The young male patients also were seen during the study owing to the transferable diseases from other coworkers or families. The old patients visited the hospital for various diseases due to a poor immune system and old age.

The number of infants of less than 1 year of age was the minimum owing to the unavailability of the child specialist. The people prefer to take their newborn to the territory hospitals where paediatrics department is available. Moreover, the infants' treatment is a great concern for the parents and government nowadays [20]. Majority of the patients were suffering from the respiratory system diseases which are the outcome of many types of research internationally [21]. Old age patients are the primary victims of the respiratory system diseases due to a weak immune system and associated diseases such as DM, Hyperglycemia etc. [22]. Moreover, the research period included winter season which justifies the greater number of respiratory diseases. Similarly, allergic and skin problems are due to the pollen allergy and crowded area.

Females were suffering more from genitourinary diseases as compared to males. The results of our research support the findings of the international studies on the subject [23]. This may be due to the urethra length in females which is shorter than males [23]. Most of the genitourinary problems existed in the age range of (15 – 40) years which showed that this is due to the appeal for sex in this age and people practice unprotected sex due to lack of awareness and facilities. The number of males in the genitourinary system was less than females. Almost all the patients were Muslim and the circumcised males were present in the research. The circumcised males are at a lower risk to develop genitourinary problems than uncircumcised males [24].

The number of accident cases studied during the research showed a greater number of males than females (male to female ratio 3:1). This is due to the more travelling of male members while females mostly stay at home. Another contributing factor is that the middle-class use cycle and motorcycle for normal transportation which is riskier and more dangerous. A study from a neighbouring country showed that trauma cases were more in females [25] as compared to males. The study highlighted that these cases of trauma were domestic in nature.

CONCLUSIONS:
The research was successful in establishing a relationship between the disease patterns and demographics of the patients. Based on this research, the health facilities at the hospital are improveable for the most prevailing and recurrent diseases. Also, the patients' management to divide the burden at a local healthcare centre is very helpful.

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