

**Prospects and Effectiveness of Referral System in Health
(A case study of Rajanpur)**



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CERTIFICATE

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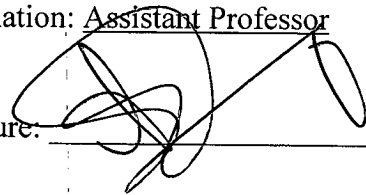
The following areas have been critically monitored.

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3. Literature Review is relevant and comprehensive.
4. Relevance of references with the text.
5. Methodology and Estimation techniques are appropriate.

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Candidate of M. Phil Health Economics at the Pakistan Institute of Development Economics do hereby declare that the thesis: **“Prospects and Effectiveness of Referral System in Health A case study of RAJANPUR”** Submitted by me in partial fulfillment of M. Phil Degree, is my original work, and has not been submitted or published earlier. I also solemnly declare that it shall not, in future, be submitted by me for obtaining any other degree from this or any other university or institution.

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*A dissertation submitted to the Pakistan Institute of Development Economics
(PIDE) Islamabad, in partial fulfillment of the requirement for the degree of
Master of Philosophy in Health Economics*

Dedicated to

My loving & caring parents for their prayers, support and guidance

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LIST OF ACRONYMS

Basic Health Unit	BHU
College of Physicians and Surgeons of Pakistan	CPSP
District Head Quarter	DHQ
Electrocardiogram	ECG
First Level Care Facilities	FLCF
General Practitioner	GP
Hepatitis B	HB
Lady Health Visitor	LHV
Maternal Child Health	MCH
Millennium Development Goals	MDG
Nursing, Midwifery and Community Health	NMCH
Pakistan Medical & Dental Council	PMDC
Rural Health Center	RHC
Tehsil Head Quarter	THQ
Tertiary Health Care	THC
Tuberculosis	TB
World Health Organization	WHO

CHAPTER 1

INTRODUCTION

Referral system is a system, when doctor or hospital is faces any limitation in provision of health care, the patient is referred to another doctor or hospital for health care consultants (WHO). The referral system is one of the major structural challenges of the health system. Limited studies have evaluated barriers of the referral system for health care provision in rural areas. Rural health provision has been a major concern of health ministry and government of Pakistan in recent years. About half of the seven-billion world population live in rural areas. Increasing population of rural areas require substantial health services and the attention of doctors and nurses, midwives, and other health care providers.

All the Rural residence deserve access to health care services regardless of their place of residence with no exception. Nevertheless, rural communities are still experiencing a multitude of health problems in comparison with their urban counterparts.

Primary health care (PHC) is commonly used as the main strategy to satisfy the health needs of rural areas across the world. Although the concept of primary health care, as a strategy to bring health facilities for all, has remained sustainable.

The right to the highest attainable standard of health is a fundamental human right. Most health systems in the world are hierarchical, starting with primary care, to secondary care facilities, to the highest level of health care facilities, which consists of tertiary level facilities that provide highly expert services. In most developing countries, however, health referral system across the various levels of care is quite weak, which affects the overall performance of the health system and contributes to undesirable

health outcomes. This research is based on referral system, where the author is interested to see the role and effectiveness of referral system in terms of facility provision at minimum cost.

1.1 Referral System

A written order from primary care doctor to specialists regarding the patient illness to get certain medical services. Many Health Maintenance Organizations (HMOs), need to get a written referral for patient to get any medical care.

A **referral** can be defined as a process in which a doctor or hospital does not possess sufficient resources (drugs, equipment, skills) to manage a clinical condition and it seeks for the assistance of a better or differently resourced facility at the same or higher level to assist the patient or take over the management of, the client's case, which is not possible for the first hospital or doctor. This way the doctors and hospitals refer patients to other places to get treatment. This system is basically referral system, which is helpful in terms of health care provision and reduction health cost.

1.2 Significance of the study

Referral system is a basic need in health care. Strengthening primary health care is essential for improving access and quality of health care in a low-income country. Nevertheless, implementing effective interventions to strengthen primary care has been challenging, and many efforts have limited success because of insufficient financial resources, weak political engagement, or inadequate management of the referral patterns of patients using primary health Centers and secondary hospitals.

1.3 Problem Statement

Tertiary hospitals in provincial headquarters are overburdened by all type of patients due to the weak infrastructure facilities in the districts in district Rajan pur. There is a dire need to know the challenges faced by the district health system to identify the challenges causes hurdles in efficient service delivery. This study will address the issue and suggest remedies for formulation of referral plan in provincial level. DHQ hospitals need strengthening and upgradation by providing medical equipment, medicine, and transportation facilities/ referral vehicles i.e ambulatory services. This will improve efficiency of health care provision to the patients.

1.4 Research Questions

1. What are the challenges and strategies to strengthen the referral system in district Rajanpur?
2. Does referral system play a role in provision of effective Health care to the patients?

1.5 Objectives of the study

1. Identify challenges influencing implementation of referral system for quality health care service delivery.
2. Investigate the role of effective referral system in Rajan Pur.

1.6 Structure of the thesis

The organization of the study includes.

Chapter 1, which is the Introduction. This chapter includes definition and concept of referral system and objectives of the study. This chapter also includes problem statement and significance of the study. Chapter 2 is related to the relevant literature about Referral System. Chapter 3 is the data and methodology, which explains the data type collection process and techniques used for the analysis of this study. Chapter 4 is the extracted results and discussion of results. and Chapter 5 is Conclusion and Policy Recommendation.

CHAPTER 2

LITERATURE REVIEW

(Mohammed Senitan, 2017) conducted a cross sectional study in Saudi Arabia in this attempted to recognize the gaps in the exploration on the effectiveness of referral forms for patients with sort 2 diabetes in Saudi Arabia. Further research on the nature of the referral system, that considers probably a portion of the referral factors from the WHO rules, is required. The frequency of chronic disease is expanding in Saudi Arabia; in this way, more research on the administrations gave for individuals chronic diseases is prescribed.

(S Siddiqi, 2001) conducted a descriptive study, the adequacy of patient referral in Pakistan. A contextual investigation of Health administrations foundation in Pakistan, regardless of an intricate system of more than 5000 fundamental health units and country health focuses, bolstered by higher-level offices, essential health care exercises have not realized anticipated upgrades in health status, particularly of rustic populace gatherings. An inadequately working referral system might be incompletely to fault. System investigation of patient referral was directed in a region of Punjab territory (Attock) to distinguish real inadequacies, assuming any, in this area.

(Kim Cervantes, 2003) expressed that our organization were disappointed with the present referral process. We overviewed supplier for the general impression of the referral procedure and with respect to explicit referrals, and discovered issues of deficient referral substance and timetable in both. The referral explicit information acquired by email review were strikingly with the mail study data. A key issue was the

enormous disparity between what the two gatherings of doctors thought was significant data to pass on and what they were really conveying.

An investigation occurred in 2 locale hospitals of Khyber Pakhtunkhwa (KP) specifically, District Headquarter Hospital, Nowshera by Sabrina, A legitimate referral system is required from area to tertiary consideration level hospitals. The estimation of a cooperation is exhibited in bury – hospital move process. A referral register was kept to record the quantity of patients, and explanations behind referral, to tertiary consideration during antenatal, intrapartum and baby blues period. Information was gathered tentatively, by included specialists or attendant on obligation, in charge of exchange of patient Number and explanations behind exchange of patients were examined. In half year concentrate all out No. of OPD patients were 12718, in the two hospitals. These included general patients, gynecological protests and obstetrical patients. Among these obstetrical or booked patients were 7757, containing 61% of OPD patients.

(June SL Brown, 2010) steered in a research can a self-referral system help improve access to psychological treatments? This might be a direct result of reasons including reluctance to counsel their GP, disappointment of the individual to perceive the psychological idea of their issues, or disappointment by the GP to detect the issues and perceive that the seriousness surpasses the limit for referral. Taking everything into account, the creators accept that the self-referral course has significant points of interest for improved access to the individuals who might some way or another not get services. In any case, it should be organized with the goal that the limit can be all around utilized by those in most need of services. Given this, it could work out great and improve

access for the individuals who might not have had the option to get access previously, as well as the individuals who have never thought of counseling.

An investigation of Zimbabwe's hospital (Mckee, 1998) Lower level establishments must be fortified to be progressively equipped for giving satisfactory services without broad referral potential outcomes until correspondences improve to legitimize a reassessment. Different creators have noticed that inadequate staffing and absence of provisions with coming about poor administration quality may obstruct the proficient conveyance of health care to patients (Annis 1981; Barnum, 1993; Bijlmakers, 1996). Contrasted and the experience of many creating nations, Zimbabwe has made incredible walks in the development of a health care system dependent on the PHC model (Sanders and Davies 1988). Nonetheless, wasteful and impartial health care system stays subtle, to a limited extent in view of lacking help of the essential and intermediate degrees of the healthcare system (Bijlmakers, 1996).

(Manijeh Eskandari ,. A., 2013) conducted a research in which she talks about in her examination Barriers of Referral System to Health Care Provision in Rural Societies a contextual analysis of Iran, the quality of the referral system is without a doubt one of the principle factors in determining the health care process in towns. Deterrents to great execution of the referral system can avoid the accomplishment of its goals. Since the present states of the referral system are not alluring, the structures of the referral systems must be improved by making more noteworthy coordination between the three degrees of the referral system, reinforcing open segment of the system, expanding open mindfulness and the information of parental figures about the system, and averting self-referential.

(Pesrson, 1977) conducted a cross sectional study of Maternity referral systems in creating nations in 2005, This paper conditional depiction of key essentials for fruitful maternity referral systems has featured some complex organizational and relational facets of healthcare conveyance and here maternity referral might be considered a helpful tracer for analysis of healthcare systems. Initially, there is impressive dissimilarity between the hierarchical referral pyramid to be found in strategy records and the realities for some, ladies endeavoring to access and cross maternity care systems in numerous urban and rural settings in creating nations. Furthermore, the wide points of a maternity referral system might be universal (e.g., auspicious treatment of obstetric inconveniences) yet explicit programmer components should be founded on an appraisal of local needs and abilities. A portion of these progressions present challenges to productive maternity referral systems, yet others present energizing new chances.

(Bawar, 2016) conducted a study 2 locale hospitals of Khyber Pakhtunkhwa (KP) specifically, District Headquarter Hospital, Nowshera by Sabrina, A legitimate referral system is required from area to tertiary consideration level hospitals. The estimation of a cooperation is exhibited in bury – hospital move process. A referral register was kept to record the quantity of patients, and explanations behind referral, to tertiary consideration during antenatal, intrapartum and baby blues period. Information was gathered tentatively, by included specialists or attendant on obligation, in charge of exchange of patient Number and explanations behind exchange of patients were examined. In half year concentrate all out No. of OPD patients were 12718, in the two hospitals. These included general patients, gynecological protests and obstetrical patients. Among these obstetrical or booked patients were 7757, containing 61% of OPD patients.

(Tejal K gandhi, 2000) conducted a descriptive study in India in which Integrated management of childhood is a strategy that has been adopted by most African and Latin American countries to reduce infant and child mortality and morbidity. Key

to this strategy is the timely and appropriate treatment of severely ill children, which often requires referral to higher levels of care. In many countries and settings, culturally specific behavioral and systemic factors determine if a sick child reaches the referral care site.

(Lindsay Blank S. B., 2014) explore in a study as a result, several strategies have been developed to manage the referral of patients to secondary care. Referral management should not focus solely on reducing demand, but on ensuring that the right patients receive the right care, at the right time. A previous Cochrane review in this area was limited to high-quality, controlled studies and found only 17 published papers. The authors concluded that there was insufficient evidence on organizational and financial interventions aimed at primary care, and inconclusive evidence on effective educational interventions.

A pilot case study of Punjab Devolved Social Services Programme (PDSSP) in 2008, the health department has initially identified four major districts as pilot project -- Lahore, Faisalabad, Rawalpindi and Multan. The government will establish referral clinics in the major towns of these districts to use them as referral centres. The patients will be referred from these clinics to the teaching hospitals of the four districts. At the household level, this programme has community-based staff members i.e., lady health workers (LHWs), community midwives (CMWs) and lady health supervisors (LHSs). Each household will be registered with the respective LHW as well as BHU. Each LHW will be linked with CMW and BHU. This communication between referring and referral facilities will be part of records at corresponding levels of the system.

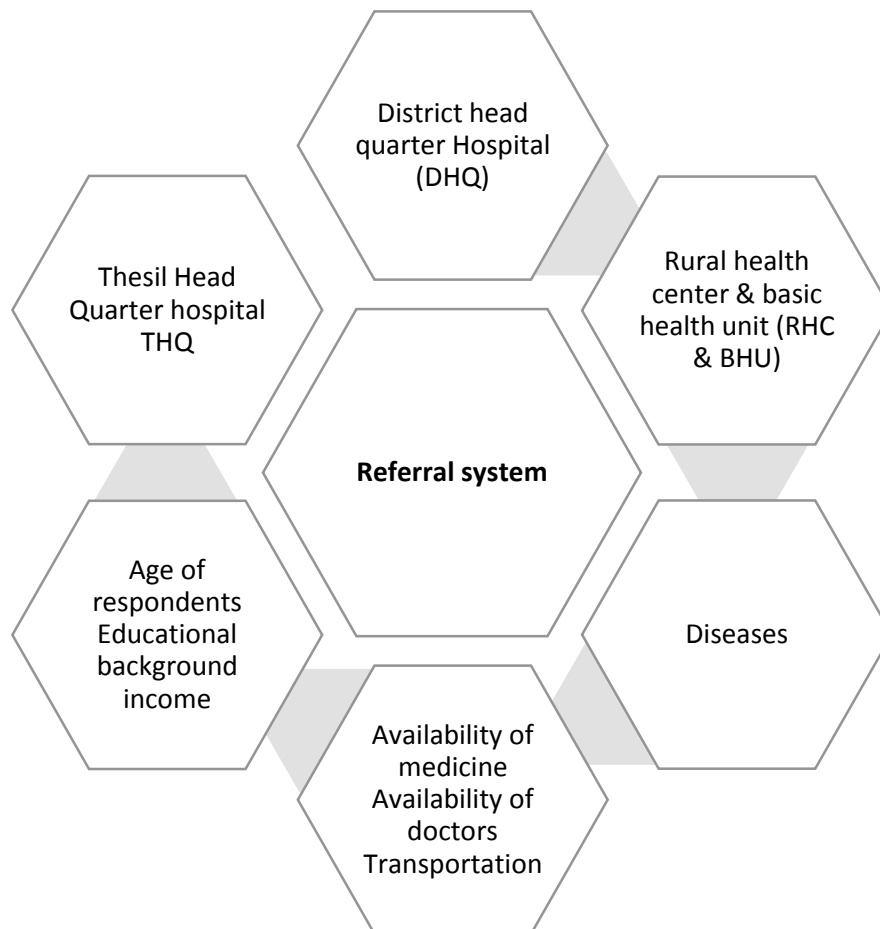
CHAPTER 3

CONCEPTUAL FRAMEWORK

3.1 Conceptual Framework

Based on the theory of change this conceptual framework has been constructed. Variables required for this purpose is referral system, income, age, transportation, availability of doctors and availability of medicine, educational background, relevant Hospitals and disease. Data related to these variables enable the researcher to access the performance of referral system for better health care provision or health service delivery.

3.2 Conceptual Framework Diagram



CHAPTER 4

DATA AND METHODOLOGY

4.1 Introduction

This section provides a detailed description of the analysis technique used for this study. This section is also further divided into subsections.

4.1.1 Methodology

Sampling Framework

Our target population is a patient approaching for treatment in the hospitals of Rajanpur district. The sampling technique has used in this study is convenient sampling. where the respondents are patients taking treatment of three specific disease including tuberculosis, hepatitis and cardio. The following hospitals from Rajanpur were included in this study are,

DHQ Rajan Pur

THQ Rojhan

THQ Jam Pur

1st Unit of Data Collection

The unit of data collection for this study is a patient of 3 specific disease. total of 249 respondents were selected from 3 Hospitals of Rajan Pur district as mentioned above.

2nd Unit of Data Collection

The second unit of data collection for this research is doctors of the same hospitals. 11 doctors were selected from three Hospitals and 13 were selected from BHU, s RHC, s and MCH centers.

Sample Size

The following formula is used for sample size calculation.

$$n = \left(\frac{Z_{\alpha} \sigma}{\frac{E}{2}} \right)^2$$

Where:

n = sample size

z = standard normal deviation at required confidence level of 95%

E = desired margin of error

σ = expected standard deviation

Data of study

There is no secondary data on this study. This study is based on primary data, for data collection Questionnaire has been used. Different type of question has been asked for in-depth analysis. Both covered patient as well as doctor in data collection phase. This survey is self-administered questionnaire.

Questionnaire of this research A&B series indicate patients perceptible. Patients taken from two Tehsil Headquarters (THQ) Hospitals and one District Head Quarter (DHQ) Hospital. C and D series of the questionnaire for the doctors. C series for the

doctors' perspective. Respondent doctors are taken from three Hospitals, and questionnaire D series for the doctors of BHU's, RHC, MCH centers.

4.1.2 Patient Prospective Questionnaire

In this questionnaire respondents are patient referred from different health care facilities. This part incorporated micro data analysis of referred patients that include socio economics demographic variables such as (household status. Educational level, and area of a patient).

The questionnaire also captures general health condition of a patient, from where patient get their first treatment, where patient referred. Overall cost of treatment which include direct and indirect treatment such as parachee fee, transportation cost, miscellaneous cost and medicine cost. This questionnaire also covered distance to the referred hospital.

4.1.3 Doctor Prospective

Doctor prospective cover two questionnaire (C, D series). One questionnaire has been designed for the DHQ hospital, THQ hospital doctors. Second questionnaire design for the MCHRC, BHU, RHC doctors.

In DHQ, THQ hospital doctor's C series questionnaire has been used. This series of question included doctor personal information (Name, designation, specialization). It also includes patient percentage come to you via referral system. Daily no of patients seen in a hospital.

This questionnaire also covered inflow referred patients, Catchment areas, Patients refer to specialized Hospital. This questionnaire also incorporates doctor

opinion about the Hospital who is overburden due to lack of referral system, and improvement in existing referral system.

For the MCHRC, BHU, RHC doctor's D series questionnaire has been used. They have been asked different questions like daily patient inflow in the hospital, number of patients get treated. Availability of basic health care facilities and Ambulatory services. This questionnaire also included doctor satisfaction about the referred system in the hospital, and knowledge about the patient economic and health conditions.

Description of variables

4.1.4 List of variables

Variables	Measurement of variables
Age	Numbers of year
Area of respondent	One DHQ Hospital Rajan Pur two THQ Rojhan & THQ Jam Pur.
Educational status	Primary to master
Source of first treatment	Where they get their first treatment, DHQ, THQ, BHU, RHC, MCH.
Type of diseases	Three disease were taken Tuberculosis hepatitis and cardiac.
Treatment cost	Treatment cost in rupee
Distance residence to Hospitals	Distance in km
Waiting time in Health facility	Waiting time in minutes
Accommodation cost	Food related cost
Transportation cost	Travel cost in term of rupees
Health Professionals	MBBS, MO, SMO
Patients treated at BHU level	Common disease
Patients catchment areas	Rajan Pur district ant its surroundings
Ambulatory problem	The existing of ambulances

4.2 Ethical Consent

- Ethical approval for the research obtained from Health Department (PIDE).
- Official written letter by the institute obtained from the hospital for data collection. Therefore, Permission secured at all levels.
- Moreover, ethical consent also taken from each respondent and this information kept confidential in every step of data collection, entry and estimation. Dignity and respect for all the study participants adhered to, throughout the research. This information will use only for research purpose.

4.3 Study Design

Methodology of this study is based on primary data. This is quantitative study based on descriptive statistics.it is a case study of district Rajanpur.

4.3.1 Study Area

Area of the study is district Rajanpur.

4.3.2 Study Population

Doctors and referred Patients of district Rajan Pur

- **Sampling:** Simple Random sampling technique will be used
- **Sample Size:** 273 sample size. States of questionnaire 249 patients from THQ and DHQ Hospitals, 11 doctors from THQ and DHQ Hospitals, and 13 doctors from BHU, MCH, and RHC's.

4.3.3 Data Analysis Plan

SPSS and Microsoft Excel have been used to analyze the data and generate results.

CHAPTER 5

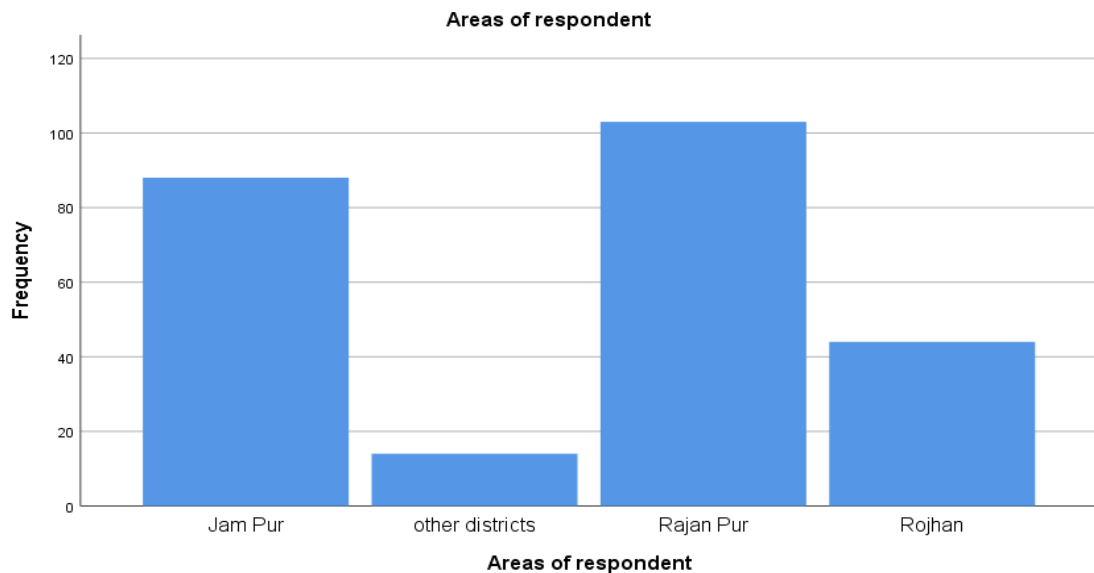
RESULT AND DISCUSSION

5.1 Characteristics of Patients

5.1.1 Area of Respondents

Three different areas are taken one district Rajan Pur second is tehsil Jam Pur and third is Tehsil Rojhan. Sample size is 273 out of approximately 2 million population of these three areas.

Figure 1: Area of Respondents



The figure 1 Indicates the results of different areas of respondent including Rajan Pur district, Rojhan tehsil, Jam Pur and other districts. The results showed that the 103 patients which is 41.4% of total sample size belonged to Rajan Pur zone visiting DHQ Hospital Rajanpur. 44 patients from Rojhan and 88 patients from jam Pur visiting tehsil headquarter hospital. Minimum respondents which is 5.6 percent of total sample

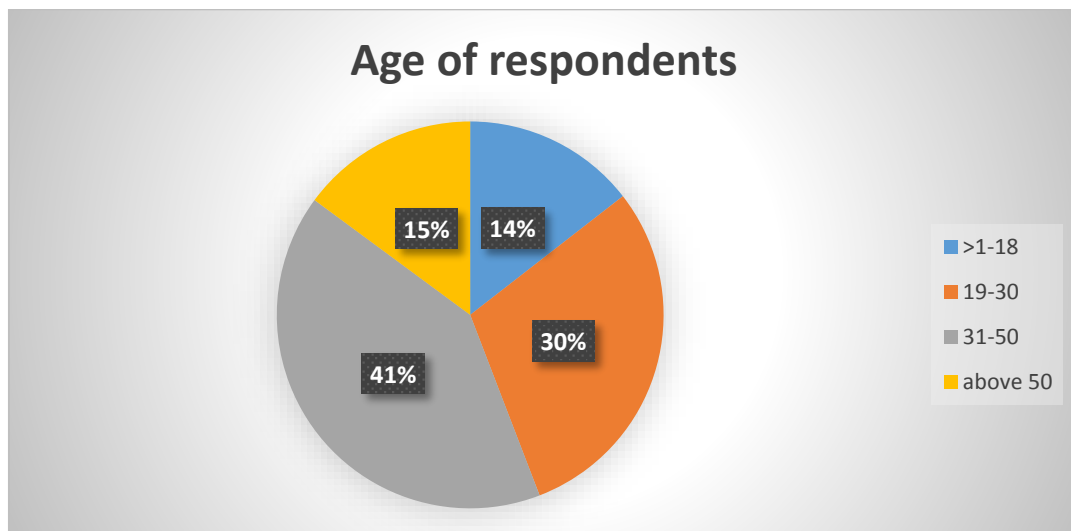
from other nearby districts. It can be noted that most of the respondents come from flung ar

reas and have limited facility of transportation.

5.1.2 Age of Respondents from Three Hospitals

The age distribution of survey respondents is shown in the figure below. Adults between the ages of 30 and while 50 above are represented in this survey, while young adults ages 18-29 and children under the age of 18 are under-represented. Age of respondents are taken four different categories less than 18 years old, 19 to 30, 31 to 50 years old and in last 50 and above.

Figure 2: Age of Respondents from Three Hospitals



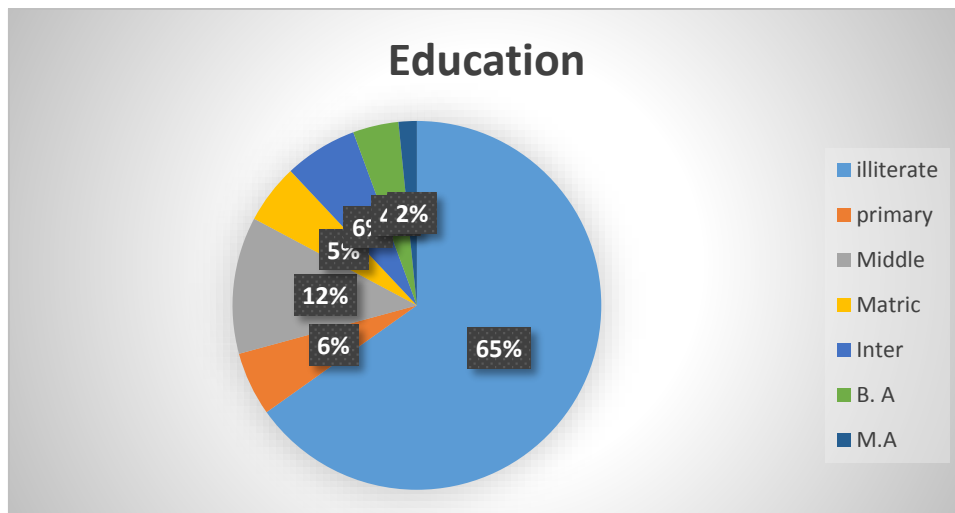
Results showed that the study based on both sexes.37.3% of respondents are female out of total sample size. 62.7% of respondents were male. Age of patients is given in different categories >1 to 18 years old 18 to 30, 31 to 50 and above. 14% were those respondents who are less than 18 these respondents were hepatitis patients, 30% respondents age is in 19-30, maximum age 41% were aged people and their age 31-50

years these respondents were cardiac tuberculosis patients, 15% ratio of respondents which are 50 plus years old these respondent's ratio are same in each disease.

5.1.3 Educational background of patients

The education level of a household member analyzes the level of awareness. Educational status of respondents was categorized as illiterate, primary, middle, matriculation, intermediate, bachelor and masters.

Figure 3: Educational background of patients

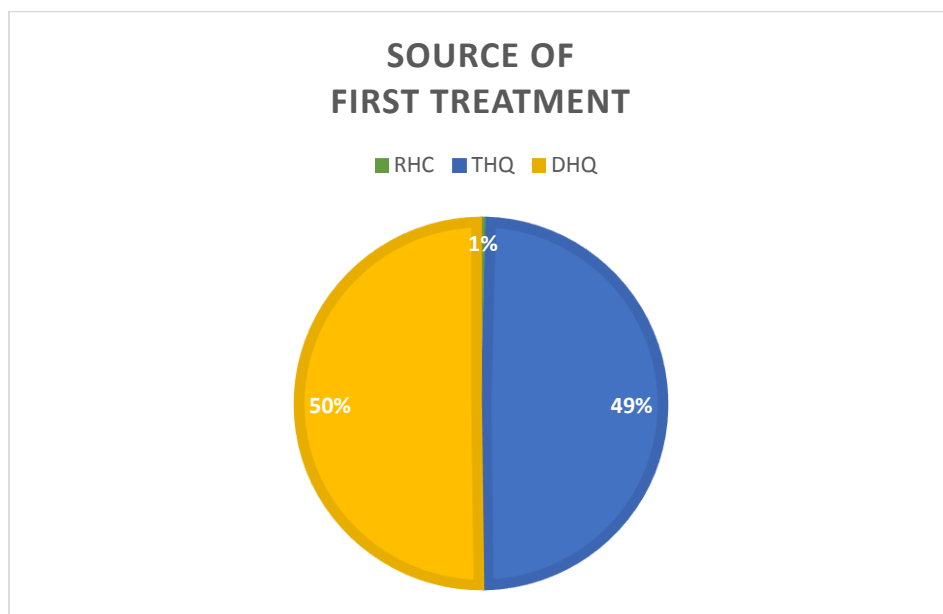


The respondents of the study had different education background. The education backgrounds showed that 65.1% respondents are illiterate. 5.6% respondents are with primary education level and 12.0 percent respondents have middle Level Education.5.2% respondents have studied only matriculation and 6.4% intermediate and 4.0 % have achieved bachelors level education respectively. Only 1.6% out of total sample size have achieved master education.

5.1.4 Health care facility used for first Treatment

Which health facility used for their treatment by the patient. It may be rural health centers; tehsil Head quarter Hospitals are district Head quarter Hospital of Rajan Pur. A referral system at all levels is used as a means to facilitate flow of patient referrals among healthcare providers.

Figure 4: Source of first Treatment



In figure 8 the patients get their first treatment from BHU, RHC, THQ Hospitals and DHQ Hospital, minimum percentage is 0.4 percent from RHC and 49.4 from THQ hospitals and maximum is getting first treatment from district head quarter hospital DHQ 50.2 percent. These patients are direct consult to DHQ Hospital and specialists to check their disease it may high or not.

5.2 Descriptive Statistics of Patient's Perspective

5.2.1 Type of Diseases

In Descriptive Statistics of patients ask them for their disease like cardiology, Hepatitis B, Hepatitis C. Hepatitis BC, Hepatitis BD, Hepatitis D, and in last tuberculosis.

Table 1: Type of diseases

Disease	Valid Percent
Cardiology	12.0
Hepatitis B	45.4
Hepatitis, B, C	2.4
Hepatitis, B, D	1.6
Hepatitis, C	14.9
Hepatitis, D	1.2
Tuberculosis	22.5
Total	100.0

In above table results showed the percentages of different diseases. It can be noted that Cardiology patients in two THQ hospitals and in 1 DHQ hospital are 12 percent come to Hospital for treatment of cardiac problem. 45.4% patients of Hepatitis B come to Hospitals for their require treatment or vaccination, Hepatitis, B, C patients 2.4 % in ratio, Hepatitis, B, D patients are 1.6% as well as Hepatitis, C patients 14.9%, Hepatitis, D patients are minimum in this study 1.2% and the results of Tuberculosis patients are 22.5% which is alarming. The result show that the disease of Hepatitis, B

are high in district Rajan Pur the in Fazil pur surroundings which is cause of water sanitation.

5.2.2 Treatment Cost of Patients in Relative Hospitals

Treatment cost in these Hospitals was asking like fee of different testis and other facilities.

Figure 5: Treatment cost of patients in relative Hospitals

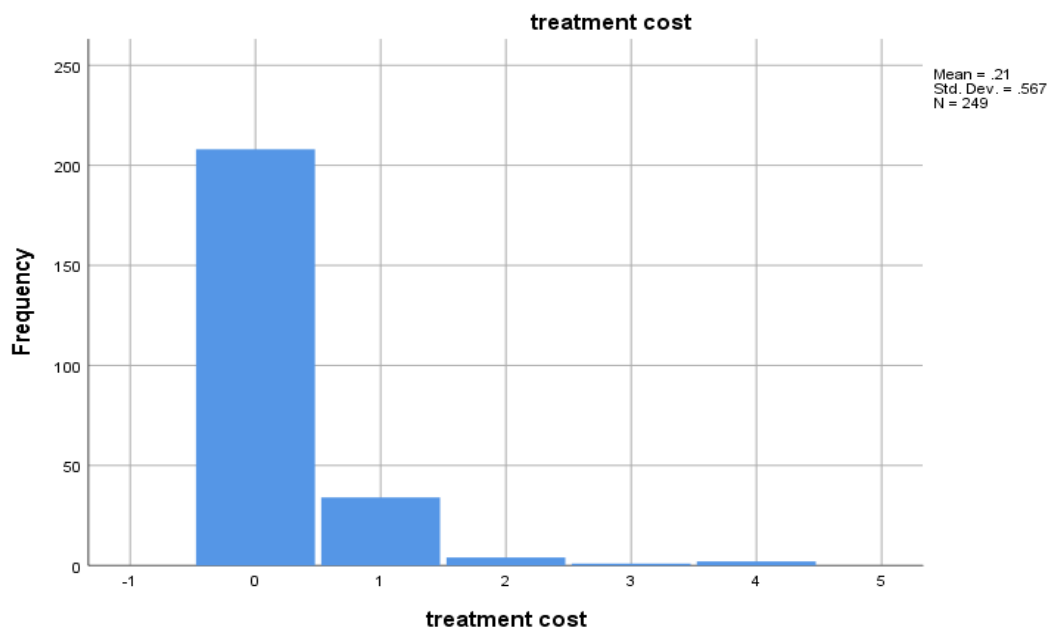
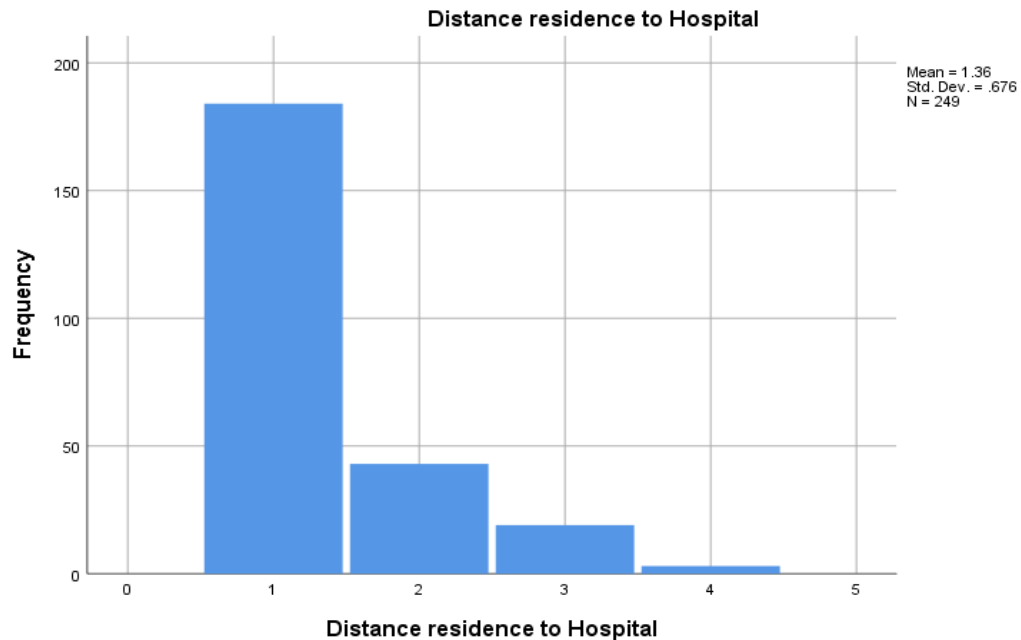


Figure 5 indicates the treatment cost of patients in relevant hospitals. The cost of treatment is in four categories, here zero show the free treatment 208 patients which is 83.5% are treated free in the DHQ Hospital Rajan Pur, THQ Hospital Rojhan and Jam Pur,, 34 respondents are bear less than 100 rupee cost for their treatment and checkups e.g 10-rupee entry for every patient of tuberculosis it may be THQ level or DHQ level. 10 rupees for X.RAY, 15 for blood test, and 50 for ECG. There are 1.6% patients bear 100-500-rupee cost in these hospitals, and two patients are bear 4700 for hepatitis test fee for CBC.

5.2.3 Distance of residence to Hospital

In figure 6 what is the distance of respondents in km. data is taken from Tehsil Head Quarters and District Head Quarter Hospitals.

Figure 6: distance of patient's residence to Hospital

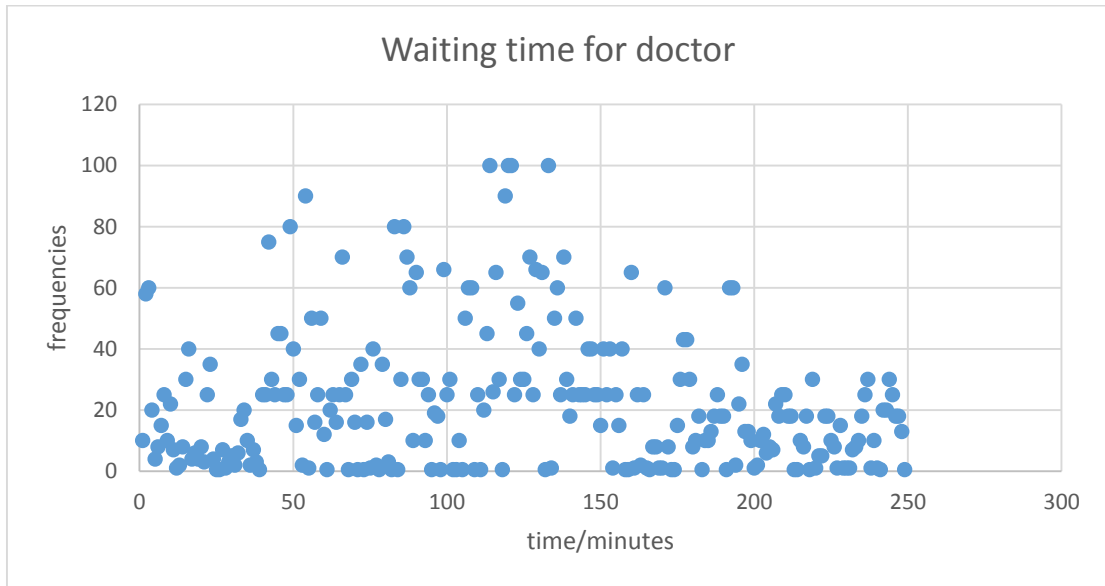


The above figure 6 the frequency of residence visits to hospital with respect to time required to reach hospital on X axis. The bar graph 10 show the results of 180 respondents 73.9% of the sample size, which is 1-50 minutes require to reach the health facility, results indicate that maximum respondents are coming from different locations, which require 20 -30 minutes of time by road transport. The study results also indicates that 5% respondents are coming from far-flung areas of district Rajanpur. Minimum time require to reach hospital is 15 minutes and maximum time require for patients to reach hospital is 180 minutes. Around 50 % respondents need more than one hour to reach hospital, which is quite a significant time to travel with patient.

5.2.4 Waiting time in Health facility

Waiting time of respondents in minutes were asked from three Hospitals, how much time they spend to reach the doctors.

Figure 7: Waiting time in Health Facility

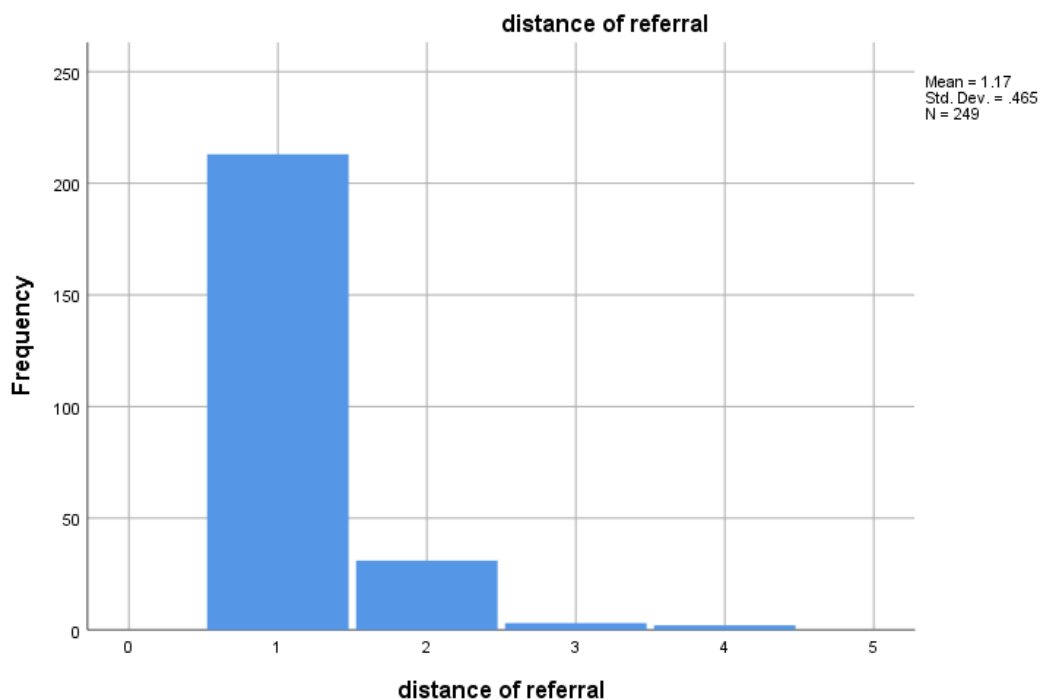


Above figure 11 show the results of respondents waiting time for health care providers. Results shows that 214 respondents which is 85.9% of the sample waiting time is 0-30 minutes require for treatment, 10% respondents directly visited the doctors when they come to hospitals, the bar graph 2 show duration of time 30-60 minutes 27 respond that they wait for doctor near about 30-60 minutes, Lastly the graph shows that almost 3% were those who waited for more than 150 minutes. Mostly patients are not directly entertained at that day which they refer or visit these Hospital cause of over burden another reason they are away to these hospitals and cannot reach at the hospital time due to road conditions or availability of transportation.

5.2.5 Distance of Respondents from Hospital to another Hospital

Knowledge of a health-care facility's catchment area is important for assessing health service utilization, for calculating population-based rates of disease and for performing other important analyses. Different approaches to defining catchment areas have been developed, mostly in the field of health service research. One simple way of establishing the boundaries of a catchment area is to use distance from the facility either the straight-line distance, the distance patients have to travel or the distance travelled by patients in a given time. Under this approach it is assumed that people will visit the closest facility, which implies that distance is the overriding factor influencing attendance. However, distance is only one of many factors that influence the choice of health-care facility; others are the services available and the perceived quality of care. Distance of respondents in km from residence to different these Hospitals and also those who are referred from on Hospital to another Hospital.

Figure 8: Distance of Respondents Home to Hospitals

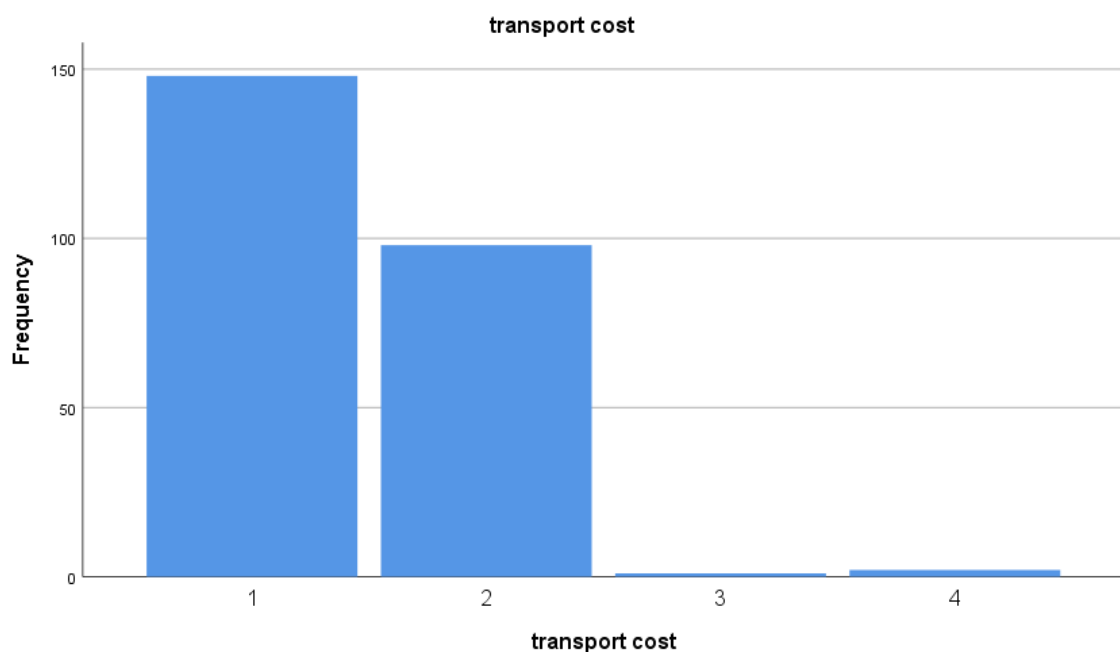


In this graph the X axis shows the distance and Y axis show number respondents. The graph is showing the results of 3 hospitals. The figure shows that 85.5% of the respondents are those whose distance from the hospital is 0.5- 50 kilometers, 12% of the respondent are residing 50-100 kilometers away from hospital. 1.2 % among these selected respondents are those who are living 100-150 kilometers far from the hospitals and lastly 0.5% are those who are over 150 kilometers away from the hospital's facilities

5.2.6 Transportation Cost Respondents

Transportation cost have also been shown to influence access to health care. Poverty and financial constraints influence decisions on where and when to seek help for health complaints.

Figure 9: Transportation Cost Respondents

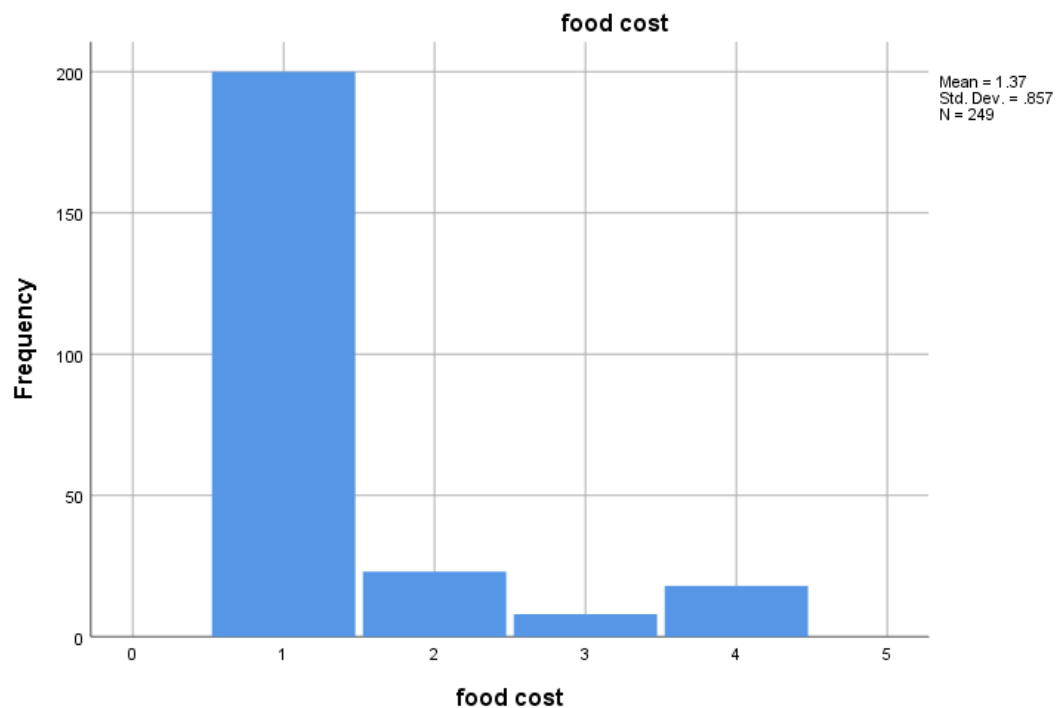


On the X axis in this graph is transportation cost, and on the Y, axis is respondents. 148 respondents are those expenses on the transportation are 0-100 rupees

in this category mostly are bear zero cost because they are mostly citizens and living near the hospitals which in ours concern. 39.4% respondents are those whose bear cost on transportation for hospitals is 100-500 rupee. 0.4% respondents are paying 1000 rupees in the transportation form to reach hospital. and 0.8% respondents are belonging far-flung and remote areas they have no facility of transport they hire a to reach that Hospitals.

5.2.7 Accommodation Cost

Figure 10: Accommodation Cost



In above graph 14 on the x axis respondents journey related and accommodation cost are discussed. The figure show that 200 respondents are bear 0-100 rupees cost as traveling and other accommodation. 23 respondents are 100-200-rupee cost for their visit in three hospitals of districts Rajan Pur. 3.2% respondent's bear cost of 300 rupees,

and Maximum cost of 7.2% respondent is above 300 hundred rupees for the visiting of district Rajan Pur Hospitals tehsil Head Quarter Hospital Jam Pur and Rojhan.

5.2.8 Exchange of Health Professionals

Specialization of Health care provider are taken like cardiologist, chest specialist, medical officer and senior medical officer from one DHQ Hospital and two THQ's Hospitals. Local area health service networks are actively coordinated, across types of provider, types of care, levels of service delivery, and for both routine and emergency preparedness. The patient's primary care provider facilitates the route like refer their patients through the needed services, and works in collaboration with other levels and types of provider. Coordination also takes place with other sectors (e.g. social services) and partners (e.g. community organizations).

Figure 11: Specialists Health Professional



Figure 11 Show the results of different specialist doctors from three hospitals DHQ Hospital Rajan Pur, THQ Hospital Rojhan and THQ Hospital Jam Pur.

Cardiologist and chest specialist are 9.1% in DHQ, MBBS 27.3%, Medical officers are maximum in these Hospital which are 45.5% and senior medical officers are 9.1% in this study.

Table 2: Major indicators

Major indicators	N	Minimum	Maximum	Mean	Std. Deviation
Refer patients	11	0	20	7.27	7.001
Patients visits	11	30	200	104.09	52.289

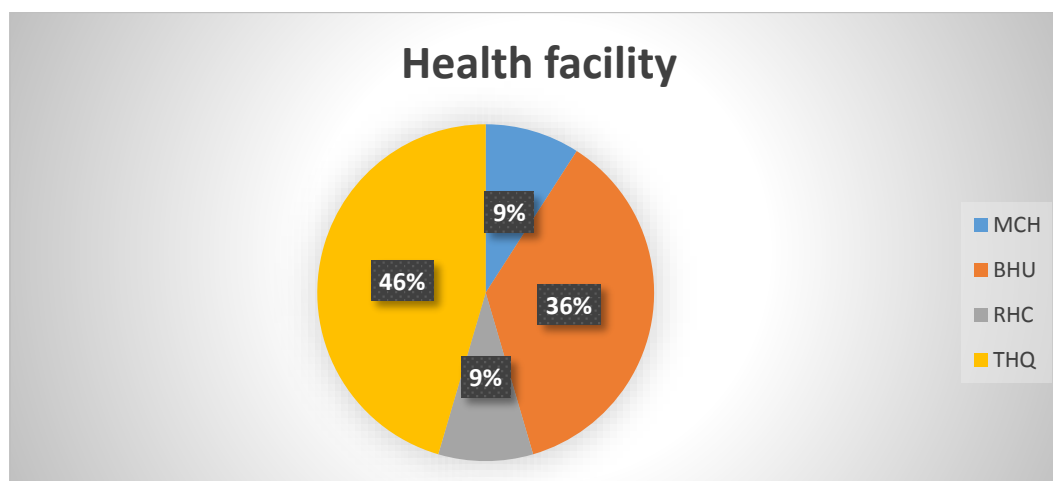
Table 2 show the Data is collected from three different hospitals and in these three hospitals 11 doctors were interviewed. Tehsil head quarter Hospital Jam Pur and Rojhan respondents are 3 each, which is 27.3 percent of the total sample size, and 5 respondents are from district head quarter hospital Rajan Pur 45.5 % in ratio.

In the findings of 11 doctors, the patients which were from BHU, MCH, RHC, minimum are 0% and maximum is 20 % from these health facilities. And the findings of patients visit in a day in these three hospitals which are taken as area of the study is 30 minimum and 200 patients are maximum visiting these three hospitals in day. The average patients visit is 104.09% in a day.

5.2.9 Percentage of Referred Patients

Patients were referred from MCH, BHU, RHC and THQ Hospital to DHQ Hospital Rajan Pur. For hospitals and health care providers, an effective patient referral system is an integral way of ensuring that patients receive optimal care at the right time and at the appropriate level, as well as cementing professional relationships throughout the health care community.

Figure 12: Percentage of Referred Patients



The study showed that 9.1 % respondents come from maternal child health MCH center, 36.4 respondents out of total sample size came from basic health units BHUs most of the respondents which is 46 percent come from Tehsil Head Quarter Hospital Jam Pur and RHCs rural health centers referred only 9.1%.

5.2.10 Patients Treated at BHU

In table 3 results shows that what percentage of patients should be treated at BHU level. This question asked from THQ Hospitals and DHQ Hospital doctors.

Table 3: Patients treated at BHU

Treated at BHU	Valid Percent
0	18.2
2	9.1
5	9.1
30	9.1
40	9.1
70	18.2
80	18.2
90	9.1
Total	100.0

Table 3 Shows that the results of 11 doctors which were interviewed from three hospital, the basic question which were asked from the doctors was, what percentage of patients you think could be treated at BHU level. Different response from different specialist doctors, the cardiologist response is 0% treated at BHU, medical officer response 9.1% are treated at primary level facility, MBBS response is 18.2% are treated at basic health unit, rural health center. Senior medical officer response as 90% patients could be treated at BHU.

5.2.11 Patient’s Catchment Areas

Catchment areas of doctors where the patients come from two tehsils and one district are taken.

Figure 13: Patient’s Catchment Areas

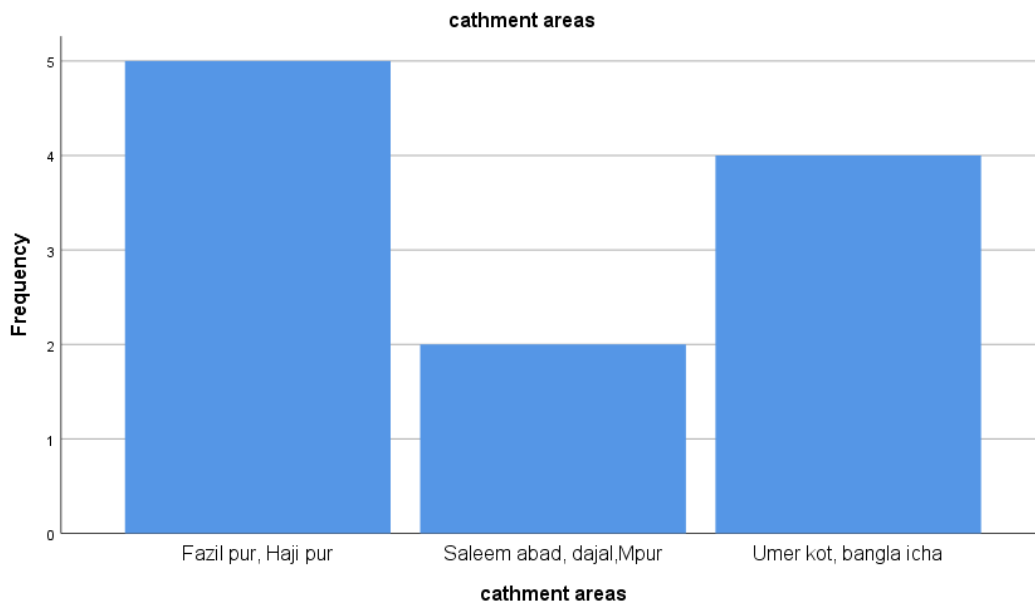


Figure 13 Showed the results of respondents which are from three different regions including district Rajan pur, tehsil Jam Pur and Rojhan also. In Rajan Pur areas like Fazil Pur, Haji Pur, tehsil Jam Pur areas are Saleem Abad, dajjal and Muhammad Pur and in Rojhan tehsil Umar Kot and Bangla Icha. The doctor’s response from three

hospital of their catchment areas, the highest ratio of respondents is from district Rajan Pur second is Rojhan and third is Jam Pur tehsil.

5.2.12 Ambulatory Problems

Ambulatory system plays a vital role in saving of lives. In the survey question is for relevant doctors, ambulatory problem was existing or not.

Table 4: Frequency distribution of Ambulatory problems

Ambulatory problem	Frequency	Valid Percent
Yes	8	72.7
No	3	27.3
Total	11	100.0

Table 4 shows the findings of 11 doctors from three different hospitals. 72.7% doctors responded that ambulatory problem is existing in three hospitals, and 27.3% responded that there is no problem of ambulatory system. Major issue is ambulatory system in THQ hospitals.

Table 5: Descriptive statistics of BHU Doctors

Indicators	Mean	Std. Deviation
Average no patients visiting you in a day?	156.92	85.478
what % of patients you attend you feel they treated at your facility level?	67.46	18.809
How many need investigations e.g. X.RAY.	2.92	1.441
What % of patients do you feel should be getting special advice for tertiary care hospitals?	31.38	18.994

The results showed that most of the respondents come from basic health units which is 69% of total sample size and remaining 31% of total sample size come from RHC. The average number of patients visiting in a day is 156.92 and the standard deviation is 85.478.the average number of patients which are under the facility of the

doctors is 67.46 and the standard deviation 18.809. The average of patients which need the facility of X. RAYS is 2.92 and the standard deviation is 1.441. The average number of patients which need special advice for tertiary care hospital is 31.38 and the standard deviation is 18.994.

CHAPTER 6

CONCLUSION AND RECOMMENDATIONS

6.1 Conclusion

Health care facilities are limited in terms of resources availability and utilization and population is increasing rapidly over the time. The population growth is much faster than the growth rate of increasing facilities in Pakistan. In hospitals bed facility is not increased parallel to population need. This is one of the reasons for Government of Pakistan and planning commission failure in health care delivery.

There is no implementation of proper Government rules, regulations in the health system of Pakistan. In this field there is no stream line. In this field resources are not utilized properly. Everyone goes in tertiary care Hospital either it may suffer in high illness like cancer, heart patients, and other high disease and normal diseases eg, fever, sugar, malaria, measles etc. The major issues of referral system in Rajanpur were lack of communication across hospitals and health care unites, which also reduce the effectiveness of referral system. The second issue is the Distance between hospitals, where the patients are referred, which affect the effectiveness of referral system. The management of referral system on district level is almost silent and non-applicable due to lack of awareness.

6.2 Recommendations

Make a communication system

- The access patients to their relevant hospitals can improved with the help of connecting hospital through a proper system. The doctors refer their patients to

the next hospital, which should be accommodate with the help of basic information about disease and doctor and also it should be a process that informs the next hospitals about the list of patients when a hospital refer patients.

MAKE A REFERRAL FEED BACK

After tertiary health care a patient does not go again and again to the tertiary care for self-examination and checking, patients go to BHU'S and THQ'S for daily routine checkup and for taking medicines they go to their first ever doctor it might be a family doctor also. This important to create a feedback system, which can provide opportunity to patients to give feedback to person who has referred the patient and also to the person about diseases history and recovery.

Every person builds a concept to check their patients for specialist if they are having normal disease. There is a need of filtration process for referral system to specify the relevant patients. Make a system to entertain that patients who comes in tertiary care centers, a GP is sitting at gate of tertiary care Hospital for filtration of the patients to the relevant doctors they should treat and check after that refer the patients to the specialist. After doing this the load of patients reduced to 1/5 on tertiary care. A patient goes to that health care professionals which is fully trained in his field, this is called constitution of referral system. A patient will sort out either it may go to tertiary and go back again to their local BHU'S. when this sort out, much of the load can be decreases.

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ANNEX

Annex 1: Ethical Approval

Ethical Approval

Respected Respondent,

Scholarly research is undertaken to observe the **Referral System**. This is often accomplished through the use of a questionnaire. This questionnaire is designed to investigate “**Prospects and effectiveness of Referral system in Health A case study (RAJANPUR)**”

In this regard, your cooperation in term of providing insight into the above-mentioned problem is required. The answer provided by you would be kept strictly confidential and will be used only for academic purpose only.

Thanks in advance, for your help in furthering this research endeavor.

Waseem Akram

Mphil Health Economics

PIDE, Islamabad

Annex 2: Questionnaire

Part 1

Questionnaire No.....

I am student of M.Phil. Health Economics at Pakistan Institute of Development Economics, Islamabad. I am working on my thesis titled “**Prospects and effectiveness of Referral system in health A case study (RAJANPUR)**” and conducting a survey of doctors. I need a few minutes from your valuable time. Your response will be kept confidential.

Best regards,

Waseem Akram

M.Phil. Health Economics

Section D: Medical practitioners

D1	Health facility? 1. MCH 2. BHU 3.RHC
D2	Average no patients visiting you in a day?
D3	What approximate percentage % patients that you attend you feel can be treated at your facility level?
D4	How many an average need investigation e.g x-ray?
D5	An average what % of patients do you feel should be getting advice and special treatment from a secondary care hospital?

D6	Do you have proper liaison with THQ OR DHQ Hospital for getting appointment for your patients?
D7	Do you have a proper arrangement like ambulance to transfer your serious patients from one Hospital to another Hospital? If yes what approximate percentage %.
D8	Do your referral patients get advantage by your referral at THQ & DHQ Hospitals? 1. Yes 2. No
D9	How much approximate percentage % patients are afford cost? 1. Just cost of medication..... 2. Just cost of transportation..... 3. Medication & transportation.....
D10	Do you get any direct feedback for the hospital where you refer your patients? 1. Yes 2. No
D11	Do you get any indirect feedback for the hospital where you refer your patients? 1. Yes 2. No
D12	Do you get to follow-up your patients after they get required treatment for THQ/DHQ Hospital, if yes approximate percentage %?
D13	Do you feel a need for improvements in this referral system, if yes 1. minor adjustment

	2. moderate changes
	3. major improvements

Part 2

Questionnaire No.....

I am student of M.Phil. Health Economics at Pakistan Institute of Development Economics, Islamabad. I am working on my thesis titled “**Prospects and effectiveness of Referral system in health A case study (RAJANPUR)**” and conducting a survey of doctors. I need a few minutes from your valuable time. Your response will be kept confidential.

Best regards,

Waseem Akram

M.Phil. Health Economics

Section C: Medical practitioners

C1	Name, designation and specialization
C2	Hospital of respondent
C3	What percentage % of patients come to you via referral system?
C4	No of patients you seen in a day?
C5	From where you get patients through referral system? 1. MCH 2. BHU 3. RHC 4. THQ

C6	What %of patients that you attend you feel can be treated at BHU level?
C7	Catchment areas?
C8	Do you have any idea of the income of your patients? If yes 1. <15000-----%? 2. <25000-----%? 3. <35000-----%? 4. <45000 or >45000-----%?
C9	Is there any difference in the SOP for treatment of referral patients and direct patients? If yes please explain
C10	Do you feel your Hospital is overburdent due to lack of referral system? 1. Yes 2. Yes of course 3. No 4. I have no idea
C11	What percentage (%) of patients you refer to specialized Hospital?
C12	Is there any need of improvement in existing referral system?
C13	Would the referral rate go up if the hospital were to expand its activities? Yes or No, if yes why?
C14	What are the reasons of low referral system for patient's perspective?
C15	Does ambulatory problem exist in your hospital?

Part 3

Questionnaire No.....

I am student of M.Phil. Health Economics at Pakistan Institute of Development Economics, Islamabad. I am working on my thesis title “**Prospects and effectiveness of Referral system in RAJANPUR**” and conducting a survey of patients. In this regard I need a few minutes from your valuable time. Your response will be kept confidential.

Best regards,

Waseem Akram

M.Phil. Health Economics

Section A: Personal information

Sr. No	Question
A1	Area of respondent
A2	Gender 1. Male 2. Female
A3	Age in years
A4	Educational status 1. Primary 2. Middle 3. Intermediate Higher

	<p>4. Other specify.....</p> <p>5. Illiterate</p>
A5	<p>From where you get your first treatment?</p> <p>1. MCH</p> <p>2. BHU</p> <p>3. RHC</p> <p>4. THQ/ Civil Hospital</p> <p>5. DHQ</p>
A6	<p>How you ever been referred from another hospital, if yes fromTo.....</p> <p>1. MCH</p> <p>2. BHU</p> <p>3. RCH</p> <p>4. THQ</p> <p>5. Other specify.....</p>
A7	<p>What type of transport did you use to reach to health center?</p> <p>1. Bus/ mini bus</p> <p>2. Ambulance</p> <p>3. Taxi</p> <p>4. Motor bike</p> <p>5. Other, specify.....</p>
A8	<p>How long did it take you get here from your home or hospital?</p> <p>Minutes.....</p>
A9	<p>How much time did you spend waiting before being seen by the Health worker?</p>

	Minutes.....
A10	<p>When you arrive at a Hospital with a referral slip, are you usually given priority when you arrive?</p> <ol style="list-style-type: none"> 1. YES 2. NO
A11	<p>Distance of referral?</p> <p>Km.....</p>
A12	<p>Was it easy to make an appointment to the doctor at a convenient time?</p> <ol style="list-style-type: none"> 1. YES 2. NO
A13	<p>How was the quality in your first time treatment good or bad, if bad</p> <p>Then what is situation where you referred.</p> <ol style="list-style-type: none"> 1. Bad 2. Very Bad 3. Good 4. Very Good
A14	<p>How was the quality of waiting rooms?</p> <ol style="list-style-type: none"> 1. Bad 2. Very Bad 3. Good 4. Very Good
A15	<p>How many doctors and hospitals you meet before reaching this destination?</p> <p>.....</p>
A16	<p>Do you think referral is necessary for patients?</p>

	<ol style="list-style-type: none"> 1. YES 2. NO
A17	<p>Do you think that referral system has helped you to get the right health care facility?</p> <ol style="list-style-type: none"> 1. YES 2. NO
A18	<p>Do you think that referral system has satisfied you by providing right doctors or right place to check your illness status? Yes or NO</p> <p>If yes, to what extend you will rank the level of satisfaction?</p> <ol style="list-style-type: none"> 1. Partially satisfied 2. just satisfied 3. enough satisfied 4. extremely satisfied

Section B; Disease & cost

B1	<p>Disease?</p> <p>Specify</p>
B2	<p>Patient</p> <ol style="list-style-type: none"> 1. Primary level 2. Secondary level 3. Tertiary level 4. Other specify.....
B3	<p>Treatment costs/service delivery related direct and indirect costs.</p> <p>Doctor fee</p> <p>Medicine cost</p>

	Any other cost related to treatment
B4	Transport cost per visit
B5	Journey related costs, any other costs incurred due to the journey e.g. accommodation and food.
B6	Hotel rents per night
B7	Time costs, Opportunity cost of taking to a referral center, waiting time and consultation time, hospitalization time.
B8	Do you think referral system has reduced your health care services cost? Yes or No, If yes, How much in PKRs?