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# The Punjab ANC Services Assessment Study

## The Provision and Quality of Antenatal Services in First - Level Care Facilities in Punjab, Pakistan

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## Acronyms

AIMC	Allama Iqbal Medical College
ANC	Antenatal Care
BHU	Basic Health Unit
AusAID	Australian Agency for International Development
BP	Blood Pressure
BWN	Bahawalnagar
CBO	Community Based Organisation
CCB	Citizen Community Board
CMW	Community Midwife
Co-PI	Co-Principal Investigator
DC	Divisional Commissioner
DDO	Drawing and Disbursing Officer
DFID	Department for International Development
DGHS	Director General Health Services
DHIS	District Health Management Information System
DHQH	District Headquarter Hospital
DOH	District Officer Health
EDOH	Executive District Officer Health
FGD	Focus Group Discussion
FLCF	First-level Care Facility
FMT	Female Medical Technician
EPI	Expanded Programme on Immunization
GRW	Gujranwala
GOP	Government of the Punjab
Hb	Haemoglobin
HCP	Health Care Provider
HFA	Health Facility Assessment
HR	Human Resource
HMIS	Health Management Information System
IHFAN	International Health Facility Assessment Network
IMR	Infant Mortality Ratio
IUGR	Intrauterine Growth Retardation
KSR	Kasur
LHV	Lady Health Visitor
LHS	Lady Health Supervisor
LHW	Lady Health Worker
MCHC	Maternal and Child Health Centre
MDGs	Millennium Development Goals
MICS	Multiple Indicator Cluster Survey
MIS	Management Information System
MMR	Maternal Mortality Ratio
MNCH	Maternal, Newborn and Child Health
MO	Medical Officer
MTN	Multan
NGO	Non Government Organisation
PDSSP	Punjab Devolved Social Services Programme
PHC	Primary Health Care
PMDGP	Punjab Millennium Development Goals Programme
PPRA	Punjab Procurement Regulatory Authority
PRSP	Punjab Rural Support Programme
PASA	Punjab Antenatal Services Assessment
PI	Principal Investigator
RAF	Research and Advocacy Fund
RLCF	Referral Level Care Facility

RHC	Rural Health Centre
RSAIMC	Research Society Allama Iqbal Medical College
RWP	Rawalpindi
RC	Regional Coordinator
SBA	Skilled Birth Attendant
SGD	Sargodha
STIs	Sexually Transmitted Infections
SWL	Sahiwal
TBA	Traditional Birth Attendant
TT	Tetanus Toxoid
TTS	Toba Tek Singh
UNFPA	United Nations Funds for Population Activities
UNICEF	United Nations Children Emergency Fund
VHR	Vehari
WHO	World Health Organization
WMO	Women Medical Officer

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## Executive Summary

Research Society Allama Iqbal Medical College has conducted a research study for assessment of antenatal care services in first-level care facilities (BHUs and RHCs) in nine districts of Punjab. The project was funded by Maternal and Newborn Health Programme Research and Advocacy Fund (RAF), a is a key component of the Department for International Development (DFID) and Australian Agency for International Development's (AusAID) commitment to achieve MDGs 4 and 5, and their support to the Maternal, Newborn and Child Health in Pakistan. This research study has evaluated the provision and quality of ANC services at primary health care level in the province Punjab of Pakistan. The study will provide vital information for health stakeholders to define the vision for health policy related to maternal and newborn health.

The objective of the study was to assess the institutional capacity of the ANC health system in terms of measureable indicators related to management, facility resources, quality of services and facility performance for ANC in primary health care (PHC) facilities. The study also assesses the interactions of health system components i.e. clients, providers and health managers to explore the factors that influence the ANC services delivery process using a qualitative approach.

The survey covered nine districts of the Punjab using both quantitative and qualitative research methods. The surveyed districts included Bahawalnagar, Toba Tek Singh, Sahiwal, Vehari, Kasur, Sargodha, Multan, Gujranwala and Rawalpindi. From each district 17 BHUs and two RHCs were randomly selected for study and total 171 health facilities were studied along with interviews of 171 ANC health care providers and exit interviews of the same number of pregnant ladies. After the completion of quantitative assessment, the qualitative assessment was carried out through Focus Group Discussions with pregnant women (9), health facility in-charges (1), Lady Health Visitors (9), and in-depth interviews with health managers (12).

The data was processed and analysed to generate ANC indicators for management, facility resources, client assessment, treatment, counselling, client satisfaction and facility performance. Each indicator was generated by combining answers to questions of similar categories included in the data collection tools e.g. in categories of infrastructure, equipment, supplies and drugs essential items were combined. The scoring was based on the percentage of 'Yes' responses. ANC indicators/variables were ranked according to the percentage score of each constructed indicator/variable. Three scales ranking of Good/Adequate (>80%), Average (60 to 80%) and Poor (<60%) was used to generate frequency tables. The associations were studied between facility resources and performance, resources and quality of assessment, and quality of assessment and client satisfaction.

Qualitative analysis was based on coding and categorising the views of the participants under various themes. The findings were synthesised under the objectives of availability, institutional efficiency, service quality, current pattern of utilization, decision power and policy issues at various levels of service delivery process.

### Key findings

Qualitative and quantitative assessment of the study revealed the following findings.

- In Punjab, 52% of the expected number of pregnant women enrolled for ANC. Out of these, there were no further visits in 33% of cases.
- No specific statistics were available to assess the quality of ANC services. Yet the WHO standard of four ANC visits for every pregnant woman seemed hard to follow because of infrastructure issues such as distant location of health centres, staff shortages, limited working hours, and lack of availability of equipment and supplies.
- The quality of assessment and counselling was found to be unsatisfactory in more than 90% of client-provider interactions.
- Health care providers do not follow the standard protocols for provision of quality ANC services.
- The clients knew about the availability of ANC services but tended to use these services for emergency situations rather than routine check-ups. Distance and facility timings appeared to be highly inconvenient to the clients. Most of the participants were aware of the need for antenatal check-ups but lacked knowledge about the kind of services that comprise comprehensive antenatal care. Most clients believed that ultrasound scanning was the only procedure in an antenatal check-up.
- District level managers highlighted the inadequacy of building infrastructure particularly at the BHU level. According to LHVs, shortage and substandard quality of medicines as well as lack of necessary equipment and supplies hindered the smooth delivery of ANC services. Procurements and supplies were not need-based resulting in underutilization or wastage of resources at facility level.
- A number of factors contributed to non-availability and poor retention of staff at PHC facilities. These included isolated location of the facility, lack of transport, limited educational opportunities for children of staff, poor living arrangements, security concerns, absence of an enabling environment for female staff members, and lack of incentives.
- A schedule of supervisory visits to the BHUs/RHCs and a supervisory check list was available at provincial level. While there were a variety of opinions among staff about supervision ranging from punitive to supportive attitude of supervisors, supportive supervision in its true spirit was not being followed in most of the districts.
- CMWs and LHWs did not have liaison with each other because they were funded and supervised by different vertical programmes. There was no protocol in place to create linkages between different MNCH services at community level.
- Home visits by LHVs and LHWs are supposed to be a regular activity but the unavailability of transport, time constraints, and cultural restraints hindered provision of their domiciliary services.

- Community based service providers including Dais, LHWs and CMWs were considered highly influential in referring the clients to health facilities for early diagnosis of high risk pregnancies, sensitization for ANC services, and advocacy. But poor record keeping of referred patients created difficulties in follow-up of cases at PHC level.
- There were variations in utilization of first-level ANC services provided at BHUs and RHCs. The mother-in-law alone or in consultation with her son appeared to be the most influential in decision making for utilization of ANC services and delivery issues.
- Strategies employed to achieve MDGs 4 and 5 are predominantly implemented through vertical programmes with minor strengthening of routine integrated health services in the devolved district health system. District health managers were not comfortable in accommodating the special programmes in addition to their existing responsibilities of managing the integrated health services. Such parallel efforts through various vertical programmes dilute the impact of current interventions, lead to duplication of interventions and wastage of resources.
- Strategic and operational planning such as provincial and district level target setting and its monitoring were weak at both provincial and district levels. The indicators of quality of ANC services are not accounted for in routine Management Information System (MIS). The mid-year and end-year evaluation of ANC targets are not clearly spelled out at either district or provincial level.

The following table summarises the measurable indicators of quantitative findings.

## Overall quantitative findings by indicator

Sr. No	ANC indicator	Percentage of PHC facilities with good/adequate ranking
1.	Geographic accessibility	19 %
2.	Service availability	90%
3.	Supervision	65%
4.	Availability of protocols	73%
5.	MIS (Complete mother health register)	82%
6.	Training for ANC	64%
7.	Infrastructure	29%
8.	Equipment	35%
9.	Supplies	32%
10.	Drugs	53%
11.	Infection control measures	54%
12.	Laboratory equipment and supplies	11%
13.	Package of ANC laboratory tests	9%
14.	Transport	11%
15.	Client referral	86%
16.	Client assessment	5%
17.	Treatment	44%
18.	Counselling	2%
19.	Client satisfaction	46%
20.	Annual ANC-1 coverage	52%
21.	ANC-1 ranking	24%
22.	ANC revisits ranking	16%

## Conclusion

The current situation indicates that only about half of all expected pregnancies in Punjab are being enrolled for ANC-1. Of these, about one third do not report for follow-up visits. The quality of assessment and counselling of clients often does not fulfil the standard protocols and procedures for ANC.

There are multiple reasons for this compromised coverage and quality that include deficiencies in facility resources (infrastructure, equipment, supplies, medicines and diagnostic facilities) and administrative issues e.g. supervision, training and health services management. Other contributory factors are client awareness about importance of ANC, the decision making power of clients for availing services, and the detrimental role of community based service providers for utilization of ANC services in health facilities. Policies that favour implementation of MNCH services through vertical programmes rather than integrated district health system also contribute to low coverage and compromised quality of services.

Interventions are recommended at facility level to improve the facility resources and availability and accessibility of services. Behavioural change interventions are required for both providers and clients. A policy shift is required from implementing vertical programmes towards strengthening of routine integrated health services to achieve MNCH related MDGs.

## SECTION I

### INTRODUCTION

Approximately 30,000 Pakistani women die annually from pregnancy and childbirth-related complications (Khan YP, et al 2009). In 2006, Pakistan's infant mortality ratio (IMR) was estimated to be 78 per 100,000 live births (NIPS & Macro International Ltd 2008: xxi). Almost 420,000 children under the age of five die every year in Pakistan, mostly from preventable causes (UNICEF 2007; see Azfar et al 2005; Costello et al 2006). 62% of neonatal deaths occur at home during the first week of life in the absence of care from the formal health sector (Ibid: 90).

Maternal and neonatal health is strongly interlinked. For example, 33% of neonates in Pakistan die due to maternal infections and other problems related to pregnancy and delivery (Bhutta et al 2003). The level of health among Pakistani women is alarmingly poor and contributes to both maternal and child morbidity and mortality. Recent studies estimate that the lifetime risk of maternal death for Pakistani women is one in ninety three (UNICEF-The State of The World's Children 2011).

In response to a wide variety of global health problems including persistently high maternal and infant mortality ratios, the United Nations has established eight millennium development goals (MDGs). MDG4 and 5, in particular, propose the reduction of maternal mortality by three quarters and childhood mortality by two thirds between 1990 and 2015 (Bhutta et al 2005). These goals will not be met unless Pakistan rapidly achieves significant reduction in maternal and neonatal deaths.

In the Punjab province of Pakistan, only 53% of pregnant women have access to antenatal care from medical professionals at least once during their pregnancies, and only 41% have access to postnatal care. In the province, 43% of births are attended by skilled personnel. This percentage is higher in urban areas (63%) than in rural areas (35%). Medical doctors assisted with 33% of births, nurses or midwives with 6%, Lady Health Visitors with 4% and Lady Health Workers with 1%. More than half of newborns (55%) were delivered with the assistance of Traditional Birth Attendants (Dais) (MICS-Punjab 2007-08).

In Pakistan, only 39% of the deliveries are being assisted by skilled birth attendants (Federal Bureau of Statistics 2007: 50) and the percentage of women aged 15 to 49 seen by skilled birth attendants is the lowest in all South Asian countries (UNICEF 2007). Pakistani women's access to, and uptake of, available antenatal health services is strongly correlated with issues related to socioeconomic status as well as cultural and religious conservatism which is characterised by gender segregation (*pardah*) and women's restricted social mobility (Alam, Qureshi, Adil & Ali 2004; Mumtaz & Salway 2005, 2007). Pakistan Demographic and Health Survey confirms that maternal deaths are "not merely a result of treatment failure; rather [they are] the final outcome of a complex interplay between a myriad of social, cultural and economic factors" (NIPS & Macro International Ltd 2008: 167).

To this point, studies have shown that educated women living in urban and rural areas are more likely to deliver in a health facility (Federal Bureau of Statistics 2007). As a consequence of poor service in public health facilities, however, a higher percentage of deliveries occur in private facilities than in the public sector throughout Pakistan. In urban areas 39% of the deliveries take place in private sector compared to 17% in



public facilities. In rural areas the proportion is 15% versus 7% in private and public facilities respectively. (Federal Bureau of Statistics 2007: 50).

In both urban and rural areas, underlying factors contributing to adverse pregnancy outcomes include early marriage, early parity, short intervals ('birth spacing') between pregnancies, maternal infections, poor maternal nutrition and poor socioeconomic conditions (WHO 2006). Antenatal factors related to poor maternal and infant health outcomes include anaemia (Jehan et al 2007: 1), induced abortion (Bongaarts 1997; Sathar, Singh & Fikree 2007), eclampsia, placental abnormalities and congenital foetal defects (NIPS & Macro International 2008: 180). Environmental factors and infectious diseases such as acquired hepatitis, also contribute to maternal and infant morbidity and mortality (Janjua et al 2008; Khan 2006; Khan et al 2004).

In ways that require careful examination and analysis, recent studies have also indicated that even women who do receive antenatal care in Pakistan continue to face high health risks. For instance, a community based, prospective cohort study of 1369 pregnant women in Latifabad (Sindh province) identified a stillbirth rate of 33.6 per 1,000 live births despite 96% of women having received prenatal care from skilled providers (Jehan et al 2007: 1-2). Moreover, recent studies point to an estimated 8% of maternal deaths being the result of iatrogenic causes (NIPS & Macro International Ltd 2008: 180). Our research in Pakistan's antenatal care settings should, therefore, seek to identify the contribution of service-level factors to maternal morbidity and mortality (see Rohra et al 2008; Shah & Khan 2007). The absence of effective record keeping in Pakistan's public sector health services (Ali & Kuroiwa 2007) gives this project a crucial importance in gathering data about the trends in ANC health services.

Health information systems remain unreliable in most developing countries, complicating efforts to determine the status of ANC care and apply the most appropriate strategies and interventions (Hill et al 2007). Indeed, rapid progress towards MDGs 4 and 5 targets in Pakistan has been greatly hampered by poorly functioning health systems (Jafarey, Kamal, Qureshi & Fikree 2008). It is critical to know how best to approach health system strengthening and what specific actions are appropriate (Alliance for Health Policy & Systems Research 2004; UNICEF 2009).

Achieving MDGs 4 and 5, related to maternal and newborn health, is dependent on the quality, equity and efficiency of health systems (Counting Working Group 2008; UN 2008; WHO 2003). Health facilities are the main actors for interventions to improve quality and support increased access. They can also play a crucial role in supporting and sustaining changes in community-level behaviour (IHFAN 2008).

Assessment of the provision and quality of ANC services in Pakistan (see Alam, Qureshi, Adil & Ali 2004; Fatmi & Avan 2002; Midhet, Becker & Berendes 1998; Nisar & Amjad 2007; Nisar & White 2003; Zubair, Alam, Ali & Qureshi 2006), therefore, provides vital information for MNCH programmes and defines the vision and direction of health policy (Hill et al 2007; Sadana & Pang 2003; UNICEF 2008; WHO 2000).

Such an assessment ideally entails examination of the availability, equity, institutional efficiency, functioning, quality of care, delivery of services, and the current pattern of use of health services. This information strengthens the knowledge base that forms the foundation for policies (Department of Making Pregnancy Safer 2006; Mays, Halvorsen & Scutchfield 2003; UNFPA 2005; UNICEF 2008; WHO 2004, 2005). This approach employs systems orientation to identify gaps and strengths in the health system and provides data for decision makers so that key actions can be implemented to improve services (IHFAN 2008).

In spite of the great need of research in MNCH issues, evidence suggests that research funding is at most 0.02% of health expenditure; far too low to have an impact on health system development (Alliance for Health Policy & Systems Research 2004). Generally speaking, funding for health systems research in developing countries like Pakistan is meagre. In this scenario, our project serves to remedy the overall dearth of literature concerning ANC services throughout rural and urban Punjab.

### 1.1 Choosing the right strategies for intervention

Notwithstanding the Government of Pakistan's policy emphasising "the need to improve quality and accessibility of maternal health services, particularly in the rural areas" (NIPS & Macro-International 2008: 167), sustained and systemic service deficiencies and inadequate, delayed or absent health services uptake by expectant mothers means that Pakistan remains unable to meet MDG5 objectives (Jafarey, Kamal, Qureshi & Fikree 2008), as well as national-level MNCH health indicator standards and benchmarks. The lack of appropriate interventions at the community level, especially in a country where the majority of women deliver at home without a skilled birth attendant, is one of the factors closely associated with a high maternal mortality ratio in Pakistan.

In order to meet the stated objectives and service guidelines outlined by MDG5 as they relate to improvement in maternal health, policy makers and health professionals in Pakistan need to identify the issues underlying deaths during pregnancy, childbirth and the post-partum period, and address them by implementing effective, low-cost maternal health interventions. The weak health systems, inadequate training (Gul, Paul & Olson 2009) and inaccessibility of health facilities and ANC services in Pakistan are widely cited as being responsible for a high proportion of maternal and infant deaths (e.g. Midhet, Becker & Berendes 1998: 1587; Jabeen, Gul & Rehman 2005).

However, in recent decades certain low-income countries have witnessed dramatic improvements in publicly funded health care system service delivery and, by relation, national maternal and infant health indicators. For instance in Sri Lanka maternal health care is provided free-of-charge to all women (Bhutta et al 2004) and the MMR is currently estimated to be 46 per 100,000 live births (Millennium Development Goals Country Report 2005: 61), an achievement that is widely attributed to the enhanced provision and uptake of antenatal care. In 2000, 94.5% of expectant Sri Lankan mothers had visited an antenatal clinic at least once (Ibid: 61). By contrast, a study of expectant mothers in an urban squatter settlement of Karachi, in the Sindh province, indicated that 49% received no antenatal care, even in the presence of no-cost and low-cost public health sector ANC services (Nisar & White 2003). Recent indicators (2006-2007) demonstrate that 71% of urban women and 50% of rural women received antenatal check-ups in Punjab, and only 25% women in rural and urban areas consulted health providers at a public sector health care facility (Federal Bureau of Statistics 2007: 48).

Ultimately, the MDG5 successes seen in countries like Sri Lanka may serve as helpful examples of the structural, logistical and service-based solutions required to ameliorate high MMR and IMR in Pakistan. Studies based in a wide array of developing countries suggest that low-cost community-based interventions, such as antenatal care, could serve to reduce maternal and neonatal mortality by up to 70% (Bhutta et al 2005; see Khawaja 2004; Sinha 2006).

Additional recommendations include those formulated by the WHO Antenatal Technical Working Group (Geneva 1994), which advised a minimum of four antenatal visits for women with a normal pregnancy. The objective of this standard was to focus on the content of care and to set a basic, essential standard of quality of care for all countries. These recommendations also aimed to address the fact that health problems and emergencies arise at different times during pregnancy. Accordingly, some women will require more visits, at certain times during pregnancy, than others. According to the guidelines, women who develop problems need to be assessed and treated as soon as possible; they should also be encouraged to attend a clinic more often if they have any anxieties or questions (WHO 1994). Regular clinical assessments and laboratory testing (see Zareen et al 2008) for risk factors and complications are, therefore, deemed essential elements of safe pregnancy, labour and delivery, and postpartum recovery.

### **1.2 Interventions before conception and during pregnancy**

The potential benefits of antenatal care (ANC) are especially significant in Pakistan, where morbidity and mortality levels among women of reproductive age are high. The most recent estimates indicate that MMR is 276 per 100,000 births annually (Khan YP, et al 2009). There are a wide array of factors underlying maternal morbidity and mortality. For instance, a recent hospital-based study of the inter-relationship between maternal anaemia and perinatal outcomes indicated that, of 860 pregnant women examined, 402 were anaemic (<11 gm/dl) (Bakhtiar, Khan, Nasar 2007: 1). In turn, comparative cross-sectional studies in urban Pakistan indicate that anaemia in pregnant women is correlated with preterm labour and intrauterine growth retardation (IUGR) (Islam et al 2008: 27; see Bakhtiar, Khan & Nasar 2007). In India, a multi-centric study among pregnant women in urban slums showed that nearly 51.7% had moderate anaemia and 41.4% delivered low birth weight babies (Fernandez et al 2003). Supplying iron and folic acid supplements for women of childbearing age could prevent anaemia in mothers and thereby reduce stillbirth, prematurity, low birth weight babies, neural tube defects and newborn deaths (Badshah et al 2008; Islam et al 2008; Jehan et al 2007; Janjua et al 2008; Tomashek, Ananth & Cogswell 2006).

Recent studies have identified the many health advantages associated with ANC service uptake. For example, research points to significantly higher rates of tetanus toxoid immunization by women using ANC services compared to non-users (Alam, Qureshi, Adil & Ali 'no date'). Consequently, public health strategies such as mass vaccination programmes, immunization against tetanus toxoid (TT), and promotion of clean home delivery practices could prevent 7% of global neonatal deaths (Bhutta et al 2003).

Effective and timely antenatal care has the potential to inform women and their families about the risks associated with pregnancy, guide women's health seeking practices and decision making and thereby prevent maternal and infant morbidity and mortality (see Khawaja 2004). Antenatal counselling provides critical opportunities for women to learn about when she should seek help and where to give birth. It also assists women in mentally and physically preparing for the challenges they may face throughout pregnancy and during childbirth. Providing information to expectant mothers during the antenatal period concerning the importance of women's nutritional status, and its relation to foetal growth and survival as well as maternal health outcomes, are critical features of effective antenatal care. Furthermore, the treatment and prevention of malaria, STIs, and mother to child HIV transmission are significant antenatal interventions which could improve the chance of mother and infant survival. Prior to

and following childbirth, the timely provision of contraceptive information and services allows for longer intervals between births and, in turn, reduces maternal mortality risks. According to the United Nations Population Fund (2004), approximately 178,000 women can be saved each year as a result of access to contraceptives.

This project employs the available research with mixed-methodology fieldwork (quantitative and qualitative) to effectively identify the structural and socio-cultural factors implicated in low ANC uptake (Casterline, Sathar & Ul Haque 2001) and high maternal and infant mortality ratios in the Punjab. It also aims to build on the findings and successes associated with prior and existing ANC outreach and programming initiatives.

Prior research has identified a number of factors implicated in poor service provision and low ANC uptake among Pakistani women. For instance, patient dissatisfaction, long waits to see health service providers, incomplete tetanus vaccinations and inadequate pharmaceutical supplies have been cited by a variety of studies (e.g. Alam, Qureshi, Adil & Ali 2004; Midhet, Becker & Berendes 1998; Nisar & Amjad 2007; Nisar & White 2003; Zubair, Alam, Ali & Qureshi 2006).

In response, a number of initiatives, policies and programmes have been proposed and implemented across Pakistan. Projects that have shown favourable results include the development of telemedicine and 'remote patient monitoring' as instruments of rural antenatal health service delivery and infrastructure (Farooq 2007; Khalid et al 2008), the introduction of client-centred reproductive health services (Sathar et al 2005), the development of research linkages between Pakistan's health service facilities and providers (Gulzar & Henry 2005), the training of traditional birth attendants in basic pregnancy and delivery care, and the provision of safe-delivery kits (London 2005; see Butt 2006; Omer et al 2008).

In terms of governmental interventions, during the year 2009-2010, Pakistan's Maternal, Newborn & Child Health (MNCH) programme launched a Community Midwife (CMW) Programme in Punjab which is intended to provide community level ANC services and thereby direct care to women who are unable to easily access local health facilities.

Our study seeks to identify the role of CMWs in referring patients to first-level ANC health care facilities. This study explores the feasibility of these and other interventions in terms of their relevance for achieving existing MDG5 and MNCH objectives. The study undertakes close examination of antenatal service provision, quality, and women's uptake and use of such services in nine districts of Punjab. Through dual investigation of the service-level and household-level factors underlying ANC provision and uptake and by drawing on the available health literature for Pakistan, this study aims to provide comprehensive analysis of the quality and provision of ANC services and their potential contribution to maternal and infant health outcomes (see Fikree, Ali, Durocher & Rahbar 2004; Khadduri et al 2008; Nowshad et al 2008; Mahmood & Kiani 1994; Sultana & Ahmed 2002). Equally importantly, our study will assess if ANC services operate in accordance with existing WHO, MDG5 and MNCH policy, standards and objectives.

Finally, we seek to highlight the strengths and weaknesses in ANC service provision and patient uptake that ultimately affect maternal and infant morbidity and mortality ratios. Our identification of ANC service-related strengths, for instance, may serve to identify the factors because of which Punjab has the lowest total fertility rate (3.9 children per woman) and maternal mortality ratio (227 per 100,000 live births) among Pakistan's four provinces, where the MMR ranges from 276 to 785 per 100,000 live births

(Punjab, Sindh, Balochistan and the North-West Frontier Province; NIPS & Macro International Ltd 2008: 42, 168, 179). Identification of the precise factors that positively affect service provision and uptake in Punjab may assist in development of policy and programming interventions in the other provinces.

For conducting this study, Research Society AIMC has worked in collaboration with Research and Advocacy Fund (RAF). RAF is a key component of the Department for International Development (DFID) and Australian Agency for International Development's (AusAID) and provides support to the National Maternal, Newborn and Child Health (MNCH) Programme in its efforts to achieve MDGs 4 and 5 targets in relation to maternal and newborn health in Pakistan. This research study is part of these efforts and it will evaluate the provision and quality of ANC services at primary health care level in Punjab. This data will provide vital information for programmes and define the vision and direction of health policy.

### 1.3 Objectives

The objectives of the study were to assess the quality of ANC services in terms of inputs (resources), processes (service delivery process), and outputs (facility performance and patient satisfaction) at PHC facilities. Specific objectives of the study were:

1. To assess the functioning and institutional efficiency (human resources, infrastructure, supplies, drugs, lab services) in PHC health facilities providing ANC services.
2. To determine the quality of ANC services being provided in terms of rapport with clients, assessment, treatment, counselling and patient satisfaction.
3. To gauge performance of the PHC system in utilization of ANC services in terms of number of expected pregnancies in the facility catchment area (first ANC visit and revisit).
4. To determine perceptions of health managers, health care providers and patients/clients about the quality gaps in ANC services and their reasons, at each level of health care delivery system.

## SECTION II

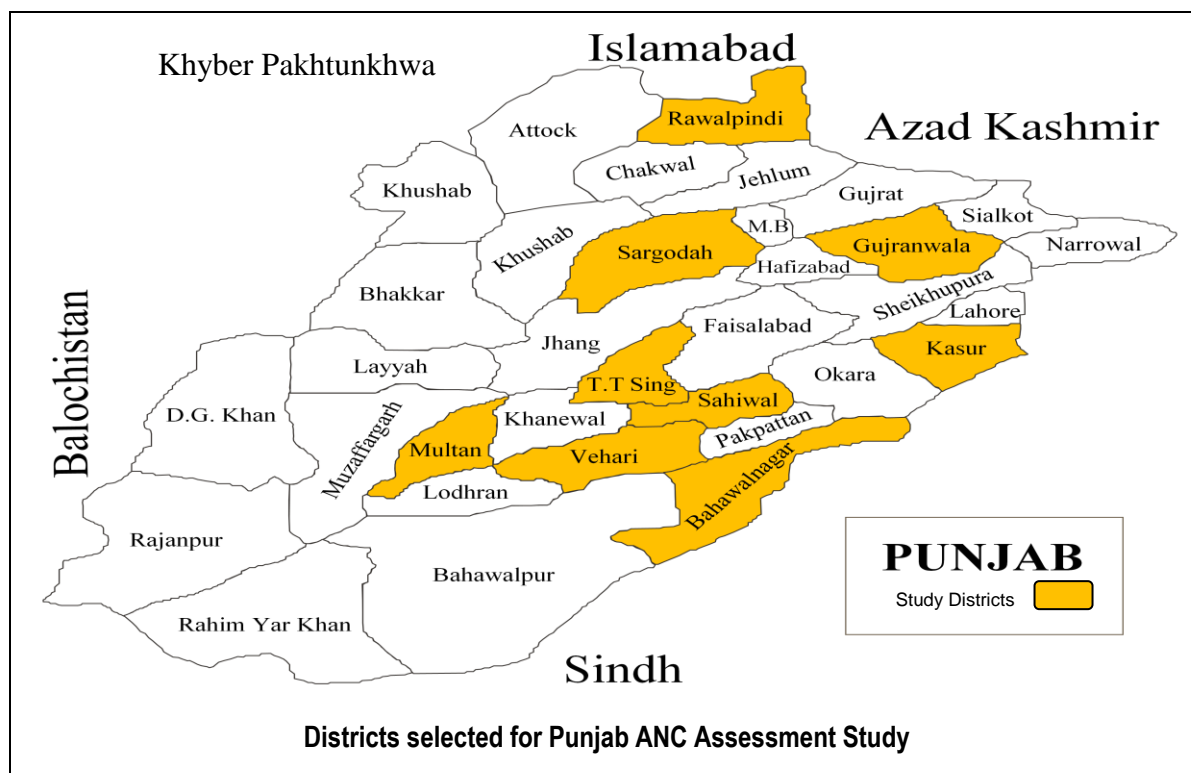
### METHODOLOGY

#### 2.1 Study design

A cross-sectional study was conducted to assess the provision and quality of ANC services in first-level care facilities. A combined quantitative and qualitative assessment methodology was used in this study. Service quality gaps were identified in terms of **inputs** (resources), **processes** (service delivery process), and **outputs** (facility performance) on the basis of quantitative data collected from the facilities. Qualitative assessment (focus group discussions (FGDs) and stakeholder interviews) was conducted in order to identify and explore the reasons for quality gaps in the provision of ANC services at client (patient), facility, and managerial levels.

#### 2.2 Sampling of districts

For both quantitative and qualitative assessments, a multi-stage sampling procedure was adopted so as to provide equal representation to different study areas and populations under study. Punjab has nine administrative units known as divisions; each division consists of a cluster of three to four districts that fall under administration of Divisional Commissioner (DC). There are 36 districts in the province. All the districts of Punjab were ranked from 1 to 36 on the basis of a composite indicator which was



developed from eight socio-demographic indicators<sup>1</sup> highlighted by the Multiple Indicator Cluster Survey of Punjab (MICS) 2004 (see Government of Punjab Planning & Development Department, Federal Bureau of Statistics & UNICEF 2004: 12-13). The

<sup>1</sup>These indicators include adult literacy, primary school enrollment, under-five mortality, prevalence of under-nutrition, adequate water and sanitation, the percentage of deliveries with a skilled birth attendant, and modern contraceptive use (Government of Punjab Planning & Development Department, Federal Bureau of Statistics & UNICEF 2004: 12-13).

districts within the first 10 rankings were stratified as 'high', while 11 to 20 were stratified as 'medium' and 21 onward as 'low'.

The rationale for using 'high', 'medium' and 'low' developmental stratification in order to select districts was to give equal representation to all social strata. For the purposes of this study, three districts were selected from each 'high', 'medium' and 'low' stratum so that one district is selected to represent each division. In this way, total nine districts were selected, allowing for representation of 25% of the total districts of Punjab. The districts selected in this way were Gujranwala, Rawalpindi and Toba Tek Singh from high ranking; Sargodha, Layyah and Sahiwal from medium ranking; Bahawalnagar, Vehari and Kasur from low ranking. District Layyah was later replaced by District Multan due to catastrophic flood in Layyah during sampling. (Box 2.1)

## 2.3 Quantitative assessment

### 2.3.1 Sampling for First-level Care Facilities (FLCFs)

In the second stage of sampling, first-level care facilities BHUs and RHCs were selected from each district. In order to sample FLCFs from each identified district, clusters of 19 health facilities was randomly selected from the total number of health facilities in the respective districts. Thus a total aggregate sample of 171 (19×9) FLCFs from Punjab was selected. The rationale of a cluster of 19 facilities from each district was reference size of Lot Quality Assessment Sample that gives inference at minimum possible level of statistical error. The aggregate sample was sufficient to assess the overall situation of ANC services in PHC facilities in Punjab.

RHCs and BHUs were randomly selected using random number tables by computer software from the sampling frames provided by the districts. Lists of total facilities were obtained from the office of Executive District Officer Health (EDOH) for each district and the serial numbers were used for random selections. Names of health facilities against the randomly selected serial numbers were identified and included in the sample. In a similar way, 19 health facilities were identified from each district and a total sample of 171 was obtained. The first pregnant woman presenting to each sampled health facility for ANC services during the survey period was included in the sample for the observation of antenatal care and an exit interview.

During data collection, three situations were faced. In the first situation, both health care provider and clients were available so all modules were completed from these 151 facilities. In the second situation where health care provider was available but client was not, only two modules (No. 1 & 2) were completed whereas modules 3 & 4 were completed from alternative facilities (3 facilities). In the third situation where both provider and client were not available, the alternative facilities (17) were used for filling all four modules. (Table. 2.1)

### 2.3.2 Quantitative assessment tools

The quantitative study tool consisted of four modules. Each module covered a specific area of ANC resources and quality. The summary of each module is given in the table below.

Modules	Title	Key areas covered under the module
Module: 1	Health facility check list	This module generally covers the facility functioning and availability of physical resources for provision of ANC services. The module consists of eight subsections; each section covers specific areas of evaluation of resources

<b>Module: 2</b>	ANC provider interview and record review	and amenities. The source of information for this module was interviews of ANC providers and examination of facility records. This module covers the specific inputs for ANC i.e. equipment, supplies, drugs, lab facilities. It also covers the ANC services provided by the facility by examination of facility records. This module consists of seven subsections.
<b>Module: 3</b>	Observation check list for antenatal care	This module was meant for assessment of the quality of ANC services delivery process. The surveyors observed the steps taken by the ANC providers during assessment, treatment and counselling of the clients.
<b>Module: 4</b>	Client exit interview	This module covers the patient/client views about the ANC services being provided to her. The surveyor noted the client perceptions about staff behaviour and satisfaction with the services provided.

### 2.3.3 Pretesting

All four modules were pretested in district Nankana Sahib near Lahore. During pretesting the study tools were used in six health facilities; five BHUs and one RHC by the senior consultants of the study team. This district was not included in the sample and was easily accessible from the project implementation office based in Lahore. After pretesting, the tools were thoroughly reviewed and finalised by PASA study team. Final tools were translated into Urdu to make them user-friendly. A field survey guide based on the study instruments and consent forms was prepared, translated into Urdu, and provided to data collection teams.

### 2.3.4 Data collection teams

Two senior public health consultants were engaged as Regional Coordinators (RCs) for North and South Punjab. Each Coordinator supervised four data collection teams in their allocated regions. Total eight teams were engaged for data collection in the nine selected districts of Punjab. Each team consisted of one team leader/supervisor and two surveyors/interviewers. Although the minimum qualification of the interviewer/supervisor was intermediate with at least two years of experience as surveyor with research projects, most of the surveyors were graduates and postgraduates with five years of experience. A gender balance in the teams was ensured so that female ANC respondents could be easily interviewed. Out of 24 surveyors, 16 were female and eight were males. This balanced combination proved to be very helpful in managing the logistics and ensuring social acceptance of surveyors by ANC providers and clients.

### 2.3.5 Training of data collection teams

A three day training workshop was organised for the training of data collection teams in Allama Iqbal Medical College, Lahore. The training focused on the orientation of study objectives, study tools, protocols, logistics, and data collection skills. The training was conducted through presentations, interactive sessions, discussion on individual tools, and role plays for interviews. On the last day of training, the participants had hands-on training in BHU Arayaina and RHC Raiwind for filling of data collection forms and discussion of practical issues faced in the field. Training was monitored by an RAF Programme Officer who gave his valuable input during the training process.



### 2.3.6 Data collection process

The micro plans for data collection in the nine districts were finalised in consultation with the team leaders and Regional Coordinators (RCs). These plans were shared by PASA team with the RAF team and disseminated to the EDOHs of all selected districts through Director General Health Services (DGHS) Punjab. A field coordination and monitoring desk was established under the supervision of the Project Coordinator and duties were assigned to Research Associates to receive letters and telephone calls from the field and communicate to the concerned officials for prompt actions. The data collection was based on observation of amenities at facilities, ANC service delivery process, examination of facility records and interviews of ANC providers and clients. After completion of four modules, team leaders checked the completed forms before submission to the PASA study office. Qualitative data collection in all selected districts was completed in eight weeks during October and November 2010.

### 2.3.7 Monitoring of quantitative field work

Field monitoring was carried out through RCs. The coordinators were assigned specific districts and the visit programme of each coordinator was prepared and communicated to team members. The coordinators solved the day-to-day problems in the field and provided feedback to data collection teams. Field monitoring reports were regularly submitted by RCs to the Project Coordinator in AIMC Lahore. The Principal Investigator visited each district and held meetings with EDOHs and data collection teams. Feedback was given to the data collection teams for improving the data quality and facilitated the data collection teams where required.

### 2.3.8 Targets achieved

Total 171 randomly selected health facilities were initially accessed for completion of facility data and interviews of providers and clients. In the first attempt, 151 data sets were completed for both clients and providers. An additional 20 health facilities were visited by teams, out of which 17 were due to non-availability of provider and three due to non-availability of clients to complete 171 data sets. Thus 191 health facilities were accessed to achieve the total 171 (100%) of planned targets in nine districts. District wise detail of facilities accessed and targets achieved are given in Table 2.1

**Table 2.1: Facilities accessed and targets achieved for quantitative assessment**

District name	Facilities accessed for achievement of targets				Targets achieved		
	1 <sup>st</sup> attempt randomly selected facilities	Additional facilities accessed (provider not available)	Additional facilities accessed (client not available)	Total facilities accessed	Data sets completed in 1 <sup>st</sup> attempt	Data sets completed in 2 <sup>nd</sup> attempt	Total data sets completed
Bahawalnagar	19	4	1	24	14	5	19
Gujranwala	19	1		20	18	1	19
Kasur	19	1		20	18	1	19
Multan	19	5	2	26	12	7	19
Rawalpindi	19	4		23	15	4	19
Sahiwal	19	1		20	18	1	19
Sargodha	19	1		20	18	1	19
TT Singh	19	-		19	19	-	19
Vehari	19	-		19	19	-	19

Total	171	17	3	191	151	20	171
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## 2.4 Qualitative assessment

For qualitative assessment, Focus Group Discussions (FGDs) were conducted with clients (pregnant women), ANC providers (LHVs) and health facility in-charges, i.e. Medical Officers (MOs) and Women Medical Officers (WMOs). In-depth interviews were conducted with district health managers [Executive District Officer Health/District Officer Health (EDO/DOHs)] and provincial health managers [Director General Health Services (DGHS) Punjab; Director, MNCH programme Punjab; and Director, MIS Punjab]. (Table 2.2)

Dr. Muhammad Anwar, a senior sociologist, was engaged as technical expert for the training of staff for qualitative assessment and analysis of data. A four member qualitative field team comprised of a senior public health consultant, a field coordinator and two sociologists having previous experience in conducting FGDs/In-depth interviews was created. One senior sociologist worked as a facilitator and the other as note taker. For in-depth interviews one female interviewer was engaged to conduct interviews with district health managers. She was accompanied by the field coordinator. Interviews of provincial health managers were conducted by the principal investigator and co-principal investigator of the study. FGDs at provincial level were conducted by the project coordinator who was helped by research associates.

Five qualitative assessment guidelines were developed by PASA team. FGD guidelines for clients and health care providers were translated into Urdu.

The summary of qualitative themes is given below:

- |   |   |
|---|---|
| 1. FGD guidelines for clients                       | This tool was focused on the felt needs, health seeking practices and socio-cultural barriers for availing ANC. It also covered the experiences of the clients with community-based service providers and staff at health facilities. |
| 2. FGD guidelines for ANC providers (LHVs)          | This tool was related to job issues, working environment, training, facility resources, socio-cultural factors influencing the ANC services provision process, and other provider related issues.                                     |
| 3. FGD guidelines facility in-charges (MOs/WMOs)    | This tool was focused on management issues, facility resources, training, workload issues, socio-cultural and political issues related to clients, providers and managers.  |
| 4. Interview themes for district managers (EDO/DOH) | This tool covered the ANC district targets, Management Information System, monitoring and evaluation, HR policy issues, supervision and feedback, facility resources and socioeconomic issues influencing the ANC services            |
| 5. Interview themes for provincial health managers  | This tool focused on provincial ANC services policies, interventions, monitoring, evaluation, and supervision of services. It also covered HR issues, facility resources, and socio-cultural factors influencing the ANC services     |

### **2.4.1 Training of qualitative team**

A three day training workshop was arranged in Allama Iqbal Medical College (AIMC) Lahore for training of the field team. In addition to the field team, the workshop was attended by all members of the PASA study team. The main focus of the training was learning of qualitative techniques of data collection and analysis. The whole training revolved around focus group discussions (FGDs) and in-depth interviews. The issues to be discussed in FGDs and in-depth interviews were also part of the training. All field work modalities and procedures for the selection of participants in the FGDs, conducting the sessions, transcribing the discussions and interviews were discussed. Mock sessions were also arranged.

#### ***Selection of Clients***

Clients were selected from women who fulfilled all of the following criteria:

- Pregnant women who had already experienced at least one pregnancy and birth process; primigravida were excluded.
- Belonged to lower or middle social class.
- Came from the catchment area of health facility or health house.

Total 12 clients were included in each FGD session.

#### ***Selection of Health Care Providers (LHVs)***

HCPs were selected from LHVs who fulfilled all of the following criteria:

- HCP worked at the BHU or RHC at the time of data collection.
- Had worked at the health facility for at least six months.
- Participation was voluntary and the invitations were extended with permission of the management of the Health Department.

Total 12 providers were included in each FGD session.

### **2.4.2 Conducting the FGDs**

Micro plans for FGDs and In-depth interviews were prepared with mutual consultation of the qualitative assessment team and Punjab Health Department. Plans were shared with RAF team and disseminated to all the EDOHs of selected districts by letters and faxes. Some changes were made in the original micro plans due to measles mopping programmes and polio days in some of the selected districts. The changes were shared with all stakeholders and the RAF team.

### **2.4.3 Monitoring of qualitative field work**

The primary responsibility of monitoring the qualitative assessment was entrusted to the Field Coordinator. He was in continuous contact with the field teams, district administration, Project Coordinator, and Principal Investigator of PASA study. He resolved any emerging problems during FGDs. The Principal Investigator also visited districts to ensure the quality of data being generated through the FGDs and in-depth Interviews.

### **2.4.4 Targets achieved**

Nineteen FGDs were conducted as part of qualitative assessment. Nine FGDs for clients and nine for providers were conducted in each of the nine sampled districts. One FGD was conducted for MOs/WMOs at the provincial level.

Twelve in-depth interviews were conducted as part of qualitative assessment. Nine in-depth interviews of EDOHs/DOHs, one in each district, were conducted. Three interviews were conducted with provincial stakeholders. (Table 2.2)

**Table: 2.2 Targets achieved for qualitative sampling**

District/provincial Level	Focus group discussions			In-depth interviews	
	Clients (Pregnant women)	Providers (LHVs)	Health facility In-charges (MOs/WMOs)	District health managers	Provincial Health managers
Provincial level	-	-	1	-	3
Bahawalnagar	1	1	-	1	-
Gujranwala	1	1	-	1	-
Kasur	1	1	-	1	-
Multan	1	1	-	1	-
Rawalpindi	1	1	-	1	-
Sahiwal	1	1	-	1	-
Sargodha	1	1	-	1	-
TT Singh	1	1	-	1	-
Vehari	1	1	-	1	-
<b>Total</b>	<b>9</b>	<b>9</b>	<b>1</b>	<b>9</b>	<b>3</b>
<b>Targets achieved (%)</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>

## **2.5 Data processing**

Different steps were taken for processing both quantitative and qualitative data. Quantitative data processing was initiated in the field by the desk review of completed questionnaires. The data was finally analysed to generate tables and graphs. The qualitative data processing was also initiated in the field with development of field transcripts by the interviewers and then analysed by the senior consultant. The processing of quantitative and qualitative data is described in the following sections.

### **2.5.1 Processing of quantitative data**

The main steps undertaken for quantitative data processing were desk review, data entry, construction of ANC indicators, ranking of variables and final analysis. A brief description of each step is given below.

#### **2.5.1.1 Desk review**

Completed and checked survey questionnaires were returned to a central coordination point for checking and data entry on weekly basis. The completeness, consistency, and coding of returned questionnaires were ascertained by the Project Coordinator in collaboration with data entry staff. Data validation was done by inspecting 10% of records for accuracy. Data was filed separately for each district and is kept secured by the project coordinator.

#### **2.5.1.2 Data entry**

Data was entered in SPSS version 17 by the Data Entry Operators under the supervision of a qualified statistician. Data entry was done at two separate desks. The entry errors were addressed by the comparison of double desk entries. Data analysis plan was prepared by the PASA study team and shared with the statistician. Stepwise approach was adopted in the data analysis plan.

#### **2.5.1.3 Construction of ANC indicators**

ANC indicators are composite variables generated by clubbing together similar categories of questions asked in the data collection tools e.g. for infrastructure, questions were asked about 12 items and if the responses to all 12 items were positive then that facility was given a 100% scoring for infrastructure availability. All ANC indicators were constructed in a similar way. Important independent variables/indicators were infrastructure, equipment, supplies, drugs, laboratory services and staff trainings. The dependent variables/indicators were patient assessment, treatment and counselling.

For quality of services, the independent variables were patient assessment, treatment, counselling and dependent variable/indicator was patient satisfaction.

#### **2.5.1.4 Ranking of variables**

ANC variables/indicators were ranked according to the percentage score of each constructed variable/indicator. Three scales ranking of good, average and poor was used to generate frequency tables. If a facility scored >80% for a given variable it was labelled 'good', scoring 60 to 80% was labelled 'average' and <60% ranked as 'poor'. For example, if three facilities for infrastructure had percentage score out of 12 items as 85%, 65% and 30% then their infrastructure conditions was ranked as good, average and poor respectively. In a similar way frequency tables were generated for all ANC indicators in rankings of good, average and poor.

### 2.5.1.5 Analysis

The basic aim of quantitative analysis was to generate overall and district tabulation showing the description of resources, service delivery process and facility performance indicators. For an estimation of availability of services and ANC coverage, randomly selected health facilities accessed at first attempt were used as denominator. In order to estimate the availability of resources, the quality of services and client satisfaction samples with alternative facilities accessed on second attempt were used. In descriptive analysis, the ANC variables were presented with comparison by districts and by type of health facilities (RHCs and BHUs). In inferential analysis, the association of resources was studied with facility performance and client satisfaction. The association of client assessment with their satisfaction was also studied.

The descriptive and inferential analysis is described below:

The association of accessibility and facility performance was studied by comparison of mean ANC-1 between facilities with all catchment population within 5km and facilities with one of the villages/towns falling outside the 5km limit.

The analysis is presented as:

- Simple frequency tables with percentages of variables and ANC indicators under study.
- Comparison of ANC indicators i.e. infrastructure, equipment, supplies, drugs, lab services with the facility performance using ANC-1 coverage as an indicator.
- Comparison of quality of assessment e.g. examination, treatment and counselling with client satisfaction.
- Association of resources with facility performance.

### 2.5.2 Qualitative data

The facilitator and the note taker were advised to generate the individual session report on the same day after the completion of FGD session. The whole discussion was transcribed. A qualitative analysis framework was prepared for each target group e.g. clients, providers, facility in-charges, district health managers and provincial stakeholders. The findings were categorised under the main titles of the themes included in qualitative tools relevant to specific participants in FGDs. Findings were analysed by inductive reasoning approach and qualitative assessment report was compiled under the supervision of a senior sociologist by consulting the individual session reports, transcripts/notes of FGDs and transcripts/notes of all in-depth interviews. Broadly, the analysis of data was arranged by the objectives of the study as stipulated in the research proposal.

## 2.6 Quality assurance

The quality of research work was strictly observed during all phases of study starting from the proposal to completion. Following specific steps were taken for quality assurance of the study.

- The approved proposal was reviewed by a qualified senior consultant engaged by RAF and core study team of RSAIMC.
- Both quantitative and qualitative tools were pretested, revised and translated into Urdu.

- A training module was developed to impart the same information/directions to both quantitative and qualitative assessment teams.
- Survey guides were provided to both qualitative and quantitative assessment teams.
- Internal quality checks were made by team supervisors in each field team.
- Quantitative and qualitative field work was monitored by senior public health consultants.
- Field review and desk reviews were done on collected data and 10% of the data tools were validated.
- Double desk data entry was exercised for data validation and cleaning.

## **2.7 Ethical considerations**

The informed consent forms were finalised with consultation of RAF team and were approved by National Bioethics Committee (NBC). Two separate consent forms were used, one for the interview of ANC provider and the other for client exit interviews. It was obligatory for the interviewer to complete the consent form before starting the interviews. The Punjab Health Department was one of the stakeholders of the data therefore prior approval was taken from the Punjab Health Department through official correspondence by the Principal Allama Iqbal Medical College Lahore, the patron of the RSAIMC. The study did not have any invasive effect on the target respondents and no ethical issue were noticed during data collection.

## **2.8 Report organisation**

Apart from the executive summary, The Punjab ANC Services Assessment study report consists of nine sections that include introduction, methodology, ANC indicators, quantitative findings, association of facility resources and performance, qualitative findings, discussion, conclusions and recommendations, and annexure.

Section I consists of introduction that covers the background, the depth of problem under investigation, justification and objectives of the study. Section II explains the methodology and covers the study design, assessment approaches, sampling of districts and facilities, detail of field works data processing, and report presentation. Section III covers the operational definitions of the ANC indicators agreed in the study proposal. The definitions are presented in sequence of management, facility resources, quality of services and facility performance. In section IV, quantitative findings of the study are presented along with graphical illustrations in same sequence as in the indicator section. In section V the association of facility resources and facility performance is presented. Section VI summarises the qualitative findings along with views of the respondents of qualitative assessment. In section VII both quantitative and qualitative findings are discussed to synthesize the ultimate conclusion from the study. The second last section of the report covers the conclusions and recommendations. The last section is the annexure that includes data tables, study tools and references.

## SECTION III

### ANC INDICATORS

Quantitative findings of the study are described in the form of operationally defined indicators. The primary source of information for these indicators were the questions included in different modules of the study tool. The standard check-lists for input, process and output for ANC services were objectively prepared for this study by consulting WHO Antenatal Technical Working Group's recommendations, Pakistan's Standardized Medical Protocols for primary and secondary health care facilities (PDSSP<sup>2</sup> & Contech International 2009), and discussion with Director MNCH programme Punjab. The availability of facility resources and quality of service provision process was evaluated by these check lists. Facility performance indicators were operationally defined according to MIS definitions used by the Punjab Health Department with consultation of HMIS/DHIS tools. The facility resources, quality of ANC and facility performance were operationally ranked for interpretation of the results of this study. The indicators are broadly classified under the title of management, facility resources, quality of ANC services and facility performance as given in the Box 3-A.

Box 3-A: Assessment areas and indicators		
Sr #	Assessment area	Indicators
1.	Management	i. Geographical accessibility ii. Service availability iii. Supervision iv. ANC protocols v. Information system vi. Trainings
2.	Facility resources	i. Infrastructure ii. Equipment iii. Supplies iv. Drugs v. Infection control measures vi. Laboratory equipment vii. Lab. tests viii. Transport
3.	Service quality	i. Client assessment ii. Client treatment iii. Counselling iv. Client satisfaction
4.	Facility performance	i. Annual ANC-1 coverage ii. Monthly ANC-1 coverage iii. ANC revisits/ ANC-2 iv. Community referrals

<sup>2</sup> Punjab Devolved Social Services Programme is a special vertical programme.



These indicators directly or indirectly give situational analysis of the facility resources, health facility performance, quality of services and client satisfaction regarding ANC. The following sections provide the definition of each ANC indicator in terms of check lists in the assessment tool.

### 3.1 Management

Management functions were evaluated through measureable indicators that include availability, geographical accessibility of ANC services, facility supervision, MIS, and availability of service delivery protocols. The operational definitions of management indicators are given in the coming paragraphs.

#### 3.1.1 Geographical accessibility

Number/percentage of health facilities with all catchment area population falling within 5km of its location were defined as accessible. The facilities where one of the villages or towns was located away from the facility location were not considered accessible. This indicator is based on Module 1 (Sr# 1.1).

#### 3.1.2 Service availability

Number/percentage of health facilities where ANC service providers (LHVs or other health providers) were available and providing services at the time of survey. This indicator is based on Module 2 (Sr# 1.1).

#### 3.1.3 Supervision

Assessment of supervision was based on the list of eight criteria of ANC supervision given in Box 3.1.

The state of supervision at health facilities was ranked on the basis of percentage of positive responses out of the eight criteria as:

- Good supervision >80%
- Average supervision 80% to ≥60%
- Poor supervision <60%

Box 3.1: Supervision	
i.	Supervisory visits during last month
ii.	Checked supplies of drugs
iii.	Checked monthly reports
iv.	Observed the work
v.	Provided any feedback
vi.	Praised your work
vii.	Discussed your problems
viii.	Wrote comments in inspection book
Tool Reference: Module 2 Sr.# 3.1, 3.2 (a-f), 3.3.	

#### 3.1.4 ANC protocols

This indicator shows the number and percentage of facilities which displayed ANC service delivery protocols in their premises. This indicator is based on Module 1 (Sr # 7.1 and 7.2).

#### 3.1.5 Information system

This shows the number/percentage of health facilities where the maternal health register was being completed by health care providers. This indicator is based on Module 3 (Sr #12, sub-number X).

#### 3.1.6 Training for ANC

This indicator depicts the number/percentage of providers who received ANC training during the last three years and were considered trained. It is based on Module 2 (Sr # 2.2) (First column of the table).

### 3.2 Facility resources

Facility resources were evaluated through status of infrastructure, equipment, supplies, drugs/medicines, infection control items, laboratory items, package of ANC lab tests and availability of transport. The operational definitions of facility resources indicators are given in the coming paragraphs.

#### 3.2.1 Infrastructure

Assessment of overall condition of buildings and amenities was based on the list of 12 essential items given in the Box 3.2.

Condition of buildings and amenities was ranked on the basis of percentage of positive responses out of 12 items as:

- Good condition >80%
- Acceptable condition 80% to  $\geq 60\%$
- Poor condition <60%.

#### Box 3.2: Infrastructure

- General maintenance condition good
- Cleanliness good
- Phone functional
- Electricity available
- Electricity functional
- Generator available
- Generator functional
- Availability of water supply
- Availability of toilet
- Separate toilets for males and females
- Waiting area for patients
- Privacy for examination of clients (pregnant women)

**Tool reference:** Module-1 (Sr#1.2, 1.3, 1.4, 1.5, 1.6, 1.7, 1.8, 1.12, 1.13, 1.14, 1.15, 1.16, 1.17)

#### 3.2.2 Equipment

Assessment of equipment was based on the list of 24 essential items for ANC services given in Box 3.3.

Situation of equipment in the health facilities was ranked on the basis of percentage of positive responses out of 24 items as:

- Good equipment >80%
- Acceptable equipment 80% to  $\geq 60\%$
- Poor equipment <60%

#### Box3.3: Equipment

- |                                 |                                  |
|---------------------------------|----------------------------------|
| i. Weighing machine available   | xiii. Refrigerator functional    |
| ii. Weighing machine functional | xiv. Vaccine carrier available   |
| iii. Height meter available     | xv. Vaccine carrier functional   |
| iv. Height meter functional     | xvi. Syringe cutter available    |
| v. Thermometer available        | xvii. Syringe cutter functional  |
| vi. BP apparatus available      | xviii. Hb meter available        |
| vii. BP apparatus functional    | xix. Hb meter functional         |
| viii. Stethoscope available     | xx. Microscope available         |
| ix. Stethoscope functional      | xxi. Microscope functional       |
| x. Foetoscope available         | xxii. Sterilizer available       |
| xi. Exam Couch available        | xxiii. Sterilizer functional     |
| xii. Refrigerator available     | xxiv. Sharps container available |

**Tool reference:** Module1: Sr # 2.1 to 2.11, 4.1, 4.2, 4.3, 4.4, 4.6, 4.7, 5.1, 5.2, 5.4, 5.5, 8.1, 8.2, 8.5.

### 3.2.3 Supplies

Assessment of overall condition of supplies was based on the list of 14 essential items for ANC as given in the Box 3.4. Situation of supplies in the health facilities was ranked on basis of percentage of positive responses for availability of the 14 items as:

- Good supplies >80%
- Acceptable supplies 80% to  $\geq 60\%$
- Poor supplies <60%.

#### Box 3.4: Supplies

- |   |  |
|---|--|
| i. ANC cards                              | viii. Urine strips for albumin available   |
| ii. Maternal health register              | ix. Slides for malaria parasites available |
| iii. Health education material            | x. Disinfectant available                  |
| iv. Disposable syringes available         | xi. Latex gloves available                 |
| v. Haemoglobin reagents available         | xii. 5ml disposable syringe available      |
| vi. Benedict solution available           | xiii. Branula available                    |
| vii. Blood sugar testing strips available | xiv. Soap available                        |

**Tool reference:** Module 1 Sr # 3.1, 3.2, 3.3, 4.5, 5.3, 5.6, 5.7, 5.8, 5.9, 7.1, 7.2, 8.3, 8.4, 8.6, 8.7, 8.8.

### 3.2.4 Drugs

Assessment of drug supply was based on the list of seven essential items for ANC given in Box 3.5.

Situation of the drugs in the health facilities was ranked on the basis of percentage of positive responses out of seven items as:

- Good >80%
- Acceptable 80% to  $\geq 60\%$
- Poor <60%.

#### Box 3.5: Drugs

- Tetanus toxoid vaccine
- Iron tablets
- Folic acid tablets
- Anti-malarial tablets
- Antipyretics
- Calcium tablets
- Multivitamins

**Tool Reference:** Module I Sr # 6.1 to 6.7.

### 3.2.5 Infection control measures

Assessment of infection control measures was based on the list of six essential items for ANC given in Box 3.6.

Situation of infection control measures in the health facilities was ranked on the basis of percentage of positive responses out of six items as:

- Good >80%

#### Box 3.6: Infection control measures

- Disinfectant available
- Latex gloves available
- Sharps container available
- 5ml disposable syringe available
- Branula available
- Soap available

**Tool Reference:** Module I Sr # 8.1 to 8.8.

- Acceptable 80% to  $\geq 60\%$
- Poor  $< 60\%$ .

### 3.2.6 Laboratory equipment

Assessment of laboratory facilities was based on the list of eight essential items for ANC given in the Box 3.7.

Situation of laboratory facilities at health facilities was ranked on the basis of percentage of positive responses out of the eight items as:

- Good  $> 80\%$
- Acceptable 80% to  $\geq 60\%$
- Poor lab facilities  $< 60\%$ .

#### Box 3.7: Laboratory equipment

- Hb meter available
- Hb meter functional
- Hb reagents available
- Microscope available
- Microscope functional
- Benedict solution available
- Blood sugar testing strips available
- Urine strips for albumin available

**Tool Reference:** Module I Sr # 5.1 to 5.8.

### 3.2.7 Package of ANC lab tests

The availability of lab tests was based on a list of six essential tests for ANC given in Box 3.8.

The availability of lab tests in health facilities was ranked on the basis of percentage of positive responses out of six items as:

- Good  $> 80\%$
- Acceptable 80% to  $\geq 60\%$
- Poor  $< 60\%$ .

#### Box 3.8: Lab tests for ANC

- Blood complete
- Haemoglobin
- urine sugar test
- Blood sugar test
- Urine protein
- C/E Urine

**Tool Reference:** Module 2 Sr. 5.1 (ii to vi).

### 3.2.8 Transport

Adequacy of transport was assessed by the number/percentage of health facilities having functional ambulances provided by the government. This indicator is based on Module 1 (Sr#1.9, 1.10, 1.111)

## 3.3. Service quality indicators

ANC service quality was evaluated by observing the essential steps in the services delivery process during the client-provider interactions. These indicators include client assessment, treatment and counselling. Client satisfaction was also taken as a quality indicator and it was based on the perception of clients through client exit interviews. The operational definitions of quality indicators are given in the coming paragraphs.

### 3.3.1 Client assessment

The Quality of client assessment was evaluated by observing the essential steps in clinical history and examination regarding ANC. A total of 29 queries were included for client assessment, 21 for history and nine for clinical examination as given in Box 3.9.

Quality of assessment was ranked on the basis of percentage of positive responses to the 29 queries as:

- Good >80%
- Acceptable 80% to ≥60%
- Poor <60%.

Box3.9: Assessment of client by history	
i. Age of client	xii. Swelling
ii. Use of medication by client	xiii. Tiredness/breathlessness
iii. Date of LMP asked	xiv. Felt baby movement
iv. Previous pregnancies	xv. Mentioned bleeding
v. Previous still births/neonatal deaths	xvi. Mentioned fever
vi. Heavy bleeding	xvii. Mentioned headache/blurred vision
vii. Assisted deliveries	xviii. Mentioned swelling
viii. Abortions	xix. Mentioned tiredness/ breathlessness
ix. Any bleeding	xx. Mentioned baby movement
x. Fever	
xi. Headache/blurred vision	
Assessment of client by examination	
i. Recorded BP	vi. Breast exam done
ii. Recorded weight	vii. Tests advised
iii. Palpated abdomen	viii. ANC card filled
iv. Foetal heart sounds heard	ix. Completed mother health register
v. Looked for Oedema	
Tool reference: Module 3 Sr# 8(i - iv), 9(i - iv), 10(i-vi), 11(i-vi) and 12 (i-ix).	

### 3.3.2 Quality of Treatment

The quality of treatment was based on five essential steps for treatment of ANC clients as given in Box 3.10.

Quality of treatment was ranked on the basis of percentage of positive responses out of five queries as:

- Good >80%
- Acceptable 80% to ≥60%
- Poor <60%.

Box 3.10: Quality of treatment
i. Iron tablets prescribed
ii. Folic acid tablets prescribed
iii. TT injection prescribed
iv. Anti-malarial prescribed
v. Nothing prescribed
Tool reference: Module 3 Sr# 19 (i - iv).

### 3.3.3 Quality of Counselling

Quality of counselling was based on 11 essential steps for counselling of ANC client as given in the Box 3.11.

Quality of counselling was ranked on the basis of percentage of positive responses out of 11 queries as:

- Good >80%
- Acceptable 80% to ≥60%
- Poor <60%.

Box 3.11: Quality of counselling
i. Advised about nutrition
ii. Importance of TT vaccination told
iii. Advised TT
iv. Talked about contraception
v. Talked about breast feeding
vi. Discussed place of delivery
vii. Discussed arrangement for transport
viii. Discussed who will accompany her
ix. Discussed time to reach place of delivery
x. Discussed cost of delivery
xi. Given next visit date
Tool reference: Module 3 Sr# 13,14,15,16,17 and 18 (i-v)

### 3.3.4 Client satisfaction

Client satisfaction was assessed through five essential criteria given in the Box 3.12.

Quality of treatment was ranked on the basis of percentage of positive responses out of five criteria as:

- Good >80%
- Acceptable 80% to ≥60%
- Poor <60%.

#### Box 3.12: Client satisfaction

- i. Respectful behaviour of provider
- ii. Physical examination done
- iii. Satisfied with exam time
- iv. Satisfied with answers
- v. Respectful behaviour of facility staff

**Tool reference:** Module 4 Sr# 7,8,13,14,16 and 17.

### 3.4 Facility performance indicators

Facility performance was evaluated by examining the record of services provided for ANC clients at a facility. For this purpose, annual ANC-1, monthly ANC-1, annual ANC revisits, and facility referrals were used as assessment indicators. The operational definitions of these indicators are given in the following paragraphs.

#### 3.4.1 Annual ANC-1 coverage

Annual ANC-1 coverage percentage was calculated by dividing the number of ANC-1 visits reported in a facility during the year before the survey by the expected annual number of pregnancies in the catchment area of the facility. The annual expected pregnancies were estimated at the rate of 3.4% of the population in the catchment area of the facility. The population figures reported by the MIS Punjab were used for this estimation. This indicator is based on Module-2 (Sr. # 6.4 and 6.2).

#### 3.4.2 Monthly ANC-1 coverage

Monthly ANC-1 coverage percentage was estimated by number of ANC-1 visits reported in the facility during the month before the survey divided by the monthly average of expected pregnancies calculated by catchment area population of the facilities, reported by MIS Punjab. The annual expected pregnancies were estimated at the rate of 3.4% of the catchment area population of the facilities. This indicator is based on Module 2 (Sr. # 4.4 and 6.3).

#### 3.4.3 ANC revisits

Annual ANC revisit percentage was estimated by number of revisits reported in the facility during the year before the survey divided by expected pregnancies calculated by catchment area population of the facilities reported by MIS Punjab. The annual expected pregnancies were estimated at the rate of 3.4% of the catchment area population of the facilities. For the interpretation of this indicator, it must be noted that all clients that report for follow-up visits are entered in the revisit column of the maternal health register. It was not possible to calculate the number of visits of a particular client from this data source. The revisits reported from this column are also termed as ANC-2 in some of the reporting tools of Punjab MIS. This indicator is based on Module-2 (Sr. # 6.5 and 6.2).

#### **3.4.4 Community referral**

This indicator shows the number/percentage of facilities that received ANC referrals from Community Midwives and Lady Health Workers. This indicator is based on Module 2 (Sr# 3.4 and 3.5).

## SECTION IV

### QUANTITATIVE FINDINGS

Quantitative findings of ANC Services Assessment Study are described as management of ANC services, condition of facility resources, quality of ANC services, and health facility performance according to the selected indicators under each assessment area. The primary source of information for these indicators were the questions included in different modules of the study tool.

#### 4.1 Management

For evaluation of management the availability and accessibility of ANC services, supervision, information system, service delivery protocol and staff training areas were included. The detailed findings are described here.

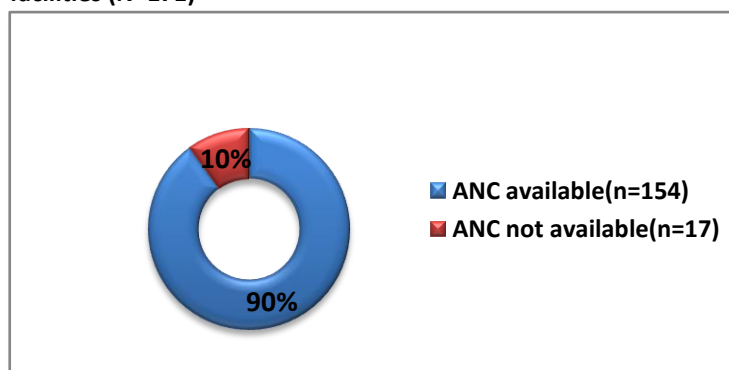
##### 4.1.1 Availability of ANC services

Out of 171 randomly selected PHC health facilities initially accessed by data collection teams, ANC services were available in 90% (154) and ANC clients were accessible in 88% (151) of health facilities from the nine selected districts.

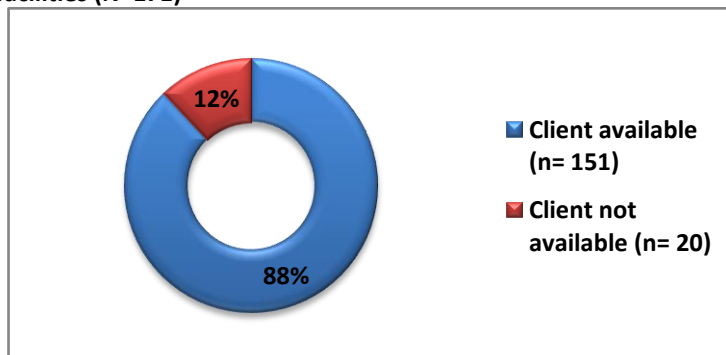
In 10% (17) of the facilities, ANC was not being provided due to non-availability of LHVs or other health providers. ANC records were not available in these facilities and most of these facilities were also not providing other PHC services to the population of the catchment area. (Fig 1 & 2)

There was a wide range of variation in the availability of ANC services in different districts. Non-availability was maximum in distinct Multan (26.3%) followed by district Bahawalnagar and Rawalpindi (21.1% each). In districts Toba Tek Singh and Vehari, all the health facilities were providing ANC services. Comparing by types of health facilities, all the RHCs were providing ANC services and non-availability was only observed at BHU level. (Annex 4.2 A & B)

**Figure 1: Availability of ANC services in randomly selected health facilities (N=171)**



**Figure 2: Availability of ANC clients in randomly selected health facilities (N=171)**





Inferential analysis showed that overall availability gaps of ANC services in Punjab varied from 6.1% to 15.6% at 95% confidence limits.

#### 4.1.2 Accessibility of ANC services

The distance of farthest village/town falling in the catchment area of the health facility was taken as a proxy indicator of accessibility of the health facility. It was observed that overall in 19% of facilities all the catchment area population was within a radius of 5km. (Fig.3)

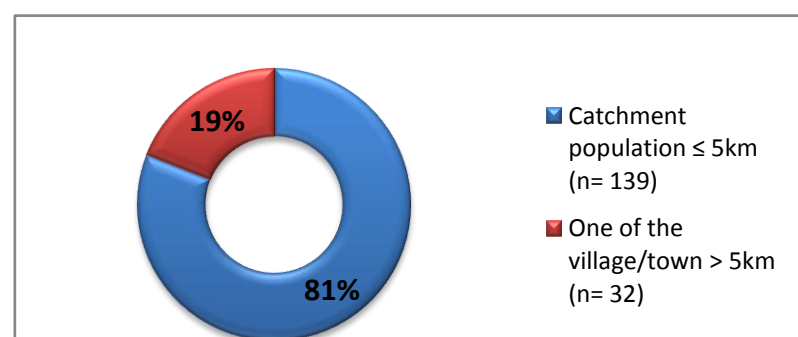
Analysis by type of facility revealed that only 18% BHUs and 28% RHCs were located within 5km of the farthest village in the catchment area. The accessibility of RHCs was relatively better than BHUs (Fig. 4)

When comparing districts, no specific trends were observed in accessibility of ANC services. However, the relative percentage within the accessibility range was higher for district Gujranwala and Sargodha followed by Multan. In rest of the

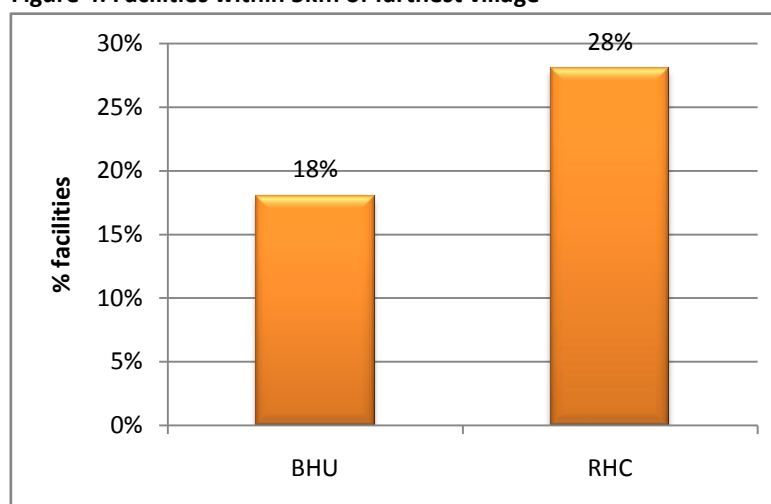
districts only a few facilities fulfilled the accessibility criteria. (Annex 4.2-B)

The inferential analysis indicates a large gap in accessibility of ANC services that varied from 74% to 87% of facilities at 95% confidence limits.

**Figure 3: Accessibility of catchment area population (N=171)**



**Figure 4: Facilities within 5km of farthest village**



#### 4.1.3 Supervision

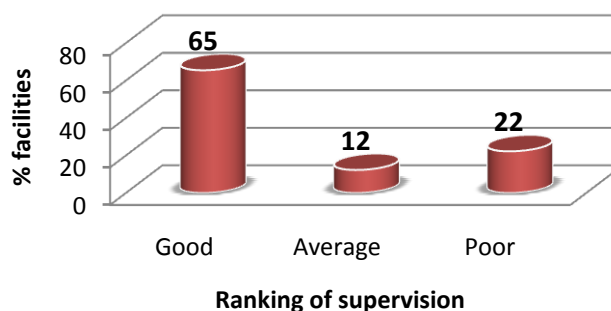
Supervision of health facilities is done by various managers at district or provincial level. Such supervision includes all or some of these: checking records or reports, observing work, providing feedback, giving praise, providing updates, discussing problems, and checking drug supply. In 65% of the health facilities supervision was assessed to be good while 22% of the health facilities were poorly supervised.

Out of the selected supervisory tasks, the supervisors checked supplies, monthly reports and provided feedback in about 70% of the health facilities. Discussing problems and writing comments on the inspection book were least commonly exercised supervision tasks leading to compromised quality of supervision. (Fig 5 & 6)

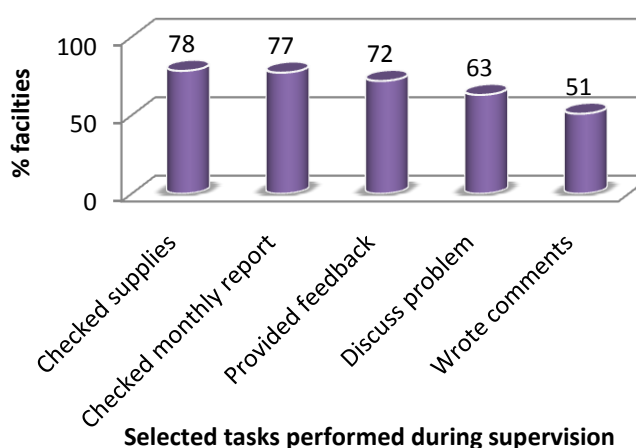
In comparison by type of health facility, supervision was better in RHCs (72%) compared to BHUs (65%). RHCs were generally located near roads and were easily accessible. Consequently, the quality of supervision was relatively better in RHCs than BHUs. (Annex 4.2-A)

In comparison by districts, highest quality of supervision was observed in district Kasur (89%) followed by Rawalpindi and Toba Tek Singh (84% each) while poor supervision was observed in districts Bahawalnagar and Gujranwala. (Annex 4.2-B)

**Figure 5: Overall quality of external supervision of facilities**



**Figure 6: Quality of supervision by supervisory task performed (N=171)**



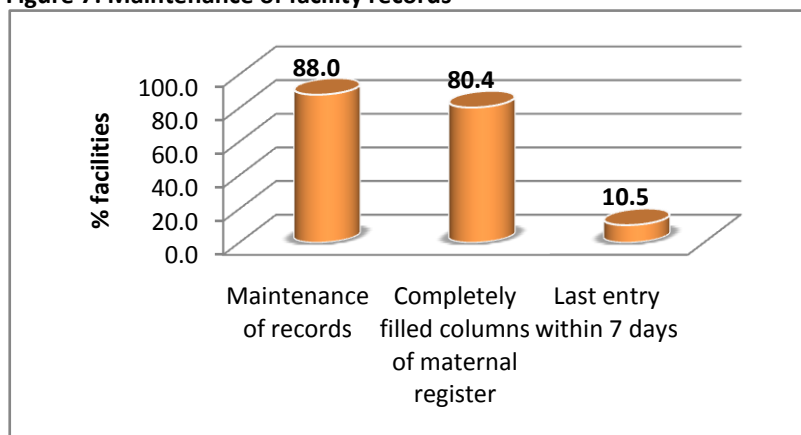
Inferential analysis showed that quality gaps exist for supervision in Punjab from 27.5 to 42.2% to achieve good ranking at 5% probability of error at 95% confidence limits

#### 4.1.4 Information system

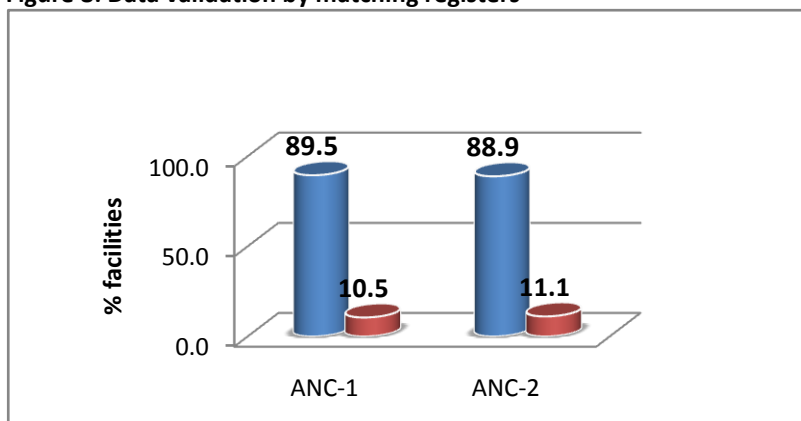
ANC records were maintained in 88% of the health facilities while columns of maternal health registers were filled in 80.4% of health facilities. Only 10.5% of the health facilities had made any entries in the maternal health register within the last seven days. Thus the maternal health registers were not being filled on regular basis. Facility record maintenance was relatively better at BHU level as compared to RHCs.

In a district-wise comparison of record maintenance, no specific trend was observed. The entries were validated by comparing ANC register entries with monthly reports. About 11% of the entries were found to be invalid in both ANC-1 and ANC-2 (revisits). Facilities were using MIS information in the form of wall charts, graph summaries and for discussions in meetings. On the other hand, about one third of health facilities were not using MIS data. (Fig. 7, 8 & 9) The inferential analysis showed that the gaps in record keeping of maternal health registers varied from 13% to 25% in Punjab. The non-utilization of facility MIS data varies from 23% to 37% at 95% confidence limits.

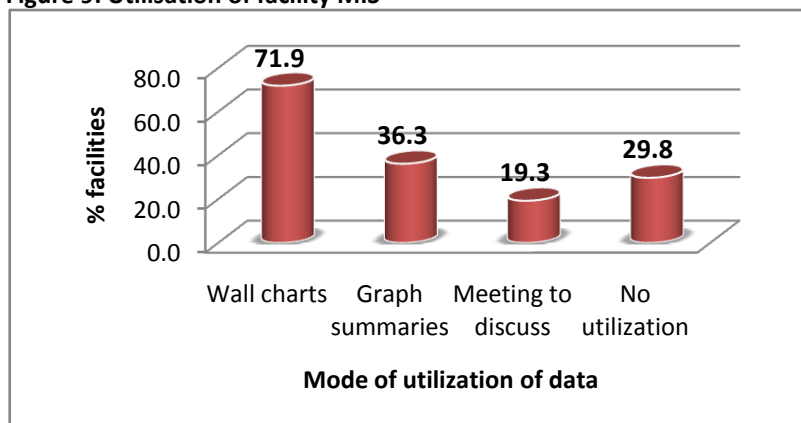
**Figure 7: Maintenance of facility records**



**Figure 8: Data validation by matching registers**



**Figure 9: Utilisation of facility MIS**



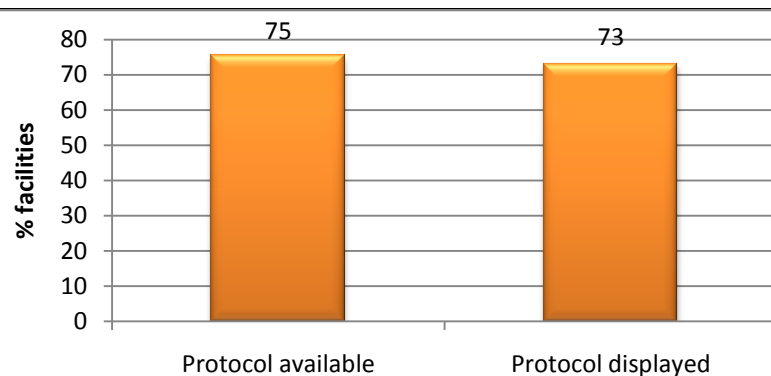
#### 4.1.5 Service delivery protocols

**Figure 10: Availability and display of Service delivery Protocols**

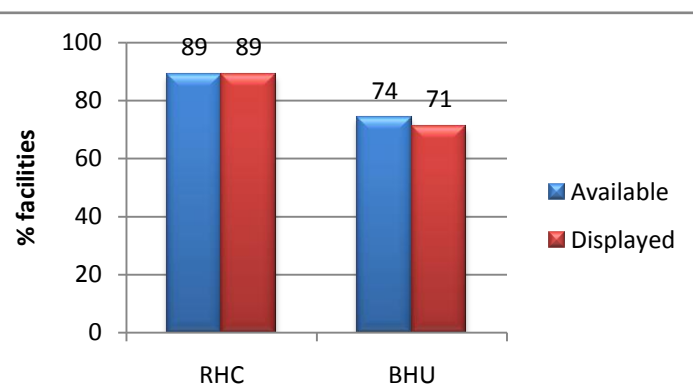
Service Delivery Protocols are meant to be available in all public sector health facilities. This study revealed that 75% of surveyed facilities had the protocols and 73% displayed them in the facility. The availability and display of these protocols were better in RHCs (89% each) than BHUs. (Fig. 10 & 11)

In district-level comparison, the Protocols were available and displayed in less than 50% facilities in district Vehari, Toba Tek

Singh, and Sargodha while the availability of protocols was 95% in districts Rawalpindi, Gujranwala and Kasur. (Annex 4.2-B)



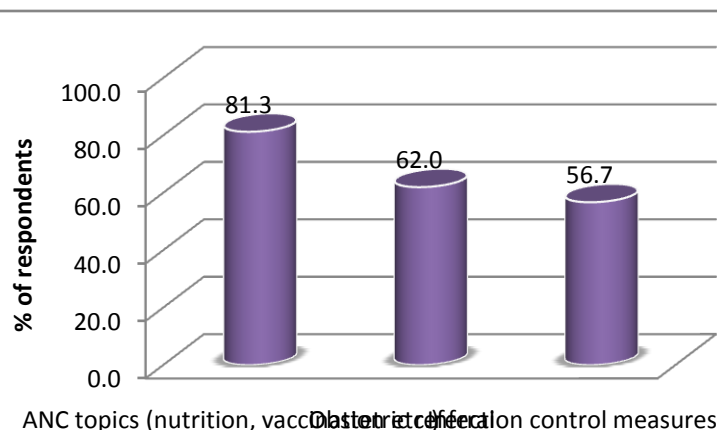
**Figure 11: Status of Service Delivery Protocols at RHC and BHU levels**



#### 4.1.6 Staff training

Out of total ANC providers interviewed, 81.3% received training on ANC related topics e.g. nutritional counselling, vaccination, etc. The training on obstetric referral was attended by 62% and infection control measures by about 57% of the respondents.

**Figure 12: Respondents who received training on selected ANC topics (N=171)**

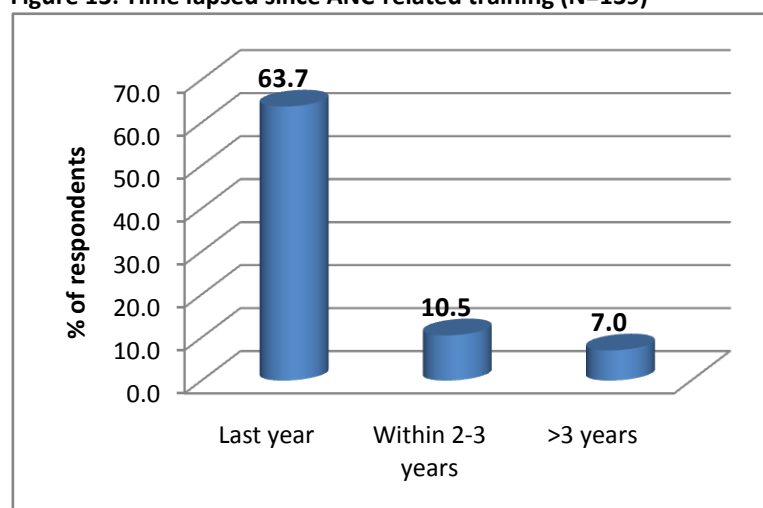


In comparison by type of facility, training proportions were better in BHUs than RHCs.

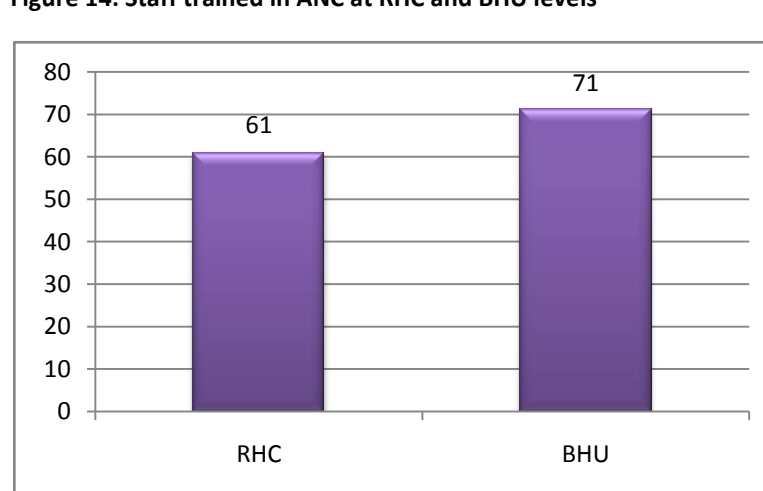
A possible reason for this trend could be higher staff strength at RHC level due to which providers may have to wait longer for their turn. (Fig 12, 13, 14)

Most of the respondents got their training last year, while very few were trained in the last three years or earlier.

**Figure 13: Time lapsed since ANC-related training (N=139)**



**Figure 14: Staff trained in ANC at RHC and BHU levels**



## 4.2 Facility resources

The assessment of facility resources included evaluation of infrastructure,

equipment, supplies, medicines, transport, laboratory services, infection control measures and human resources. The overall adequacy of facility resources was assessed on the basis of presence of required resource items as:

- Good >80%
- Acceptable 80% to  $\geq 60\%$
- Poor <60%

The details of facility resources assessment and findings are presented in this section.

### 4.2.1 Infrastructure

Infrastructure was assessed based on buildings conditions, hygiene, power supply, water source, functional latrine for clients, sitting area, telephone and privacy for examination, etc.

**Figure 15: Overall condition of Infrastructure in facilities**

Overall, condition of infrastructure in facilities was not satisfactory; only 29% facilities had good infrastructure, 43% were average and 28% had poor infrastructure for ANC services. (Fig 15)

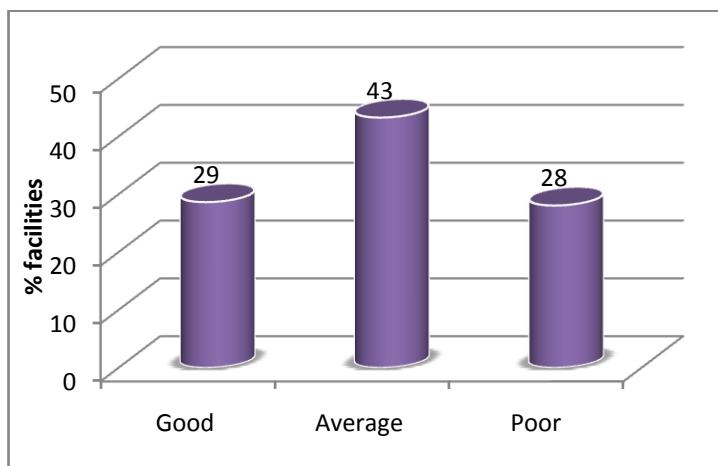
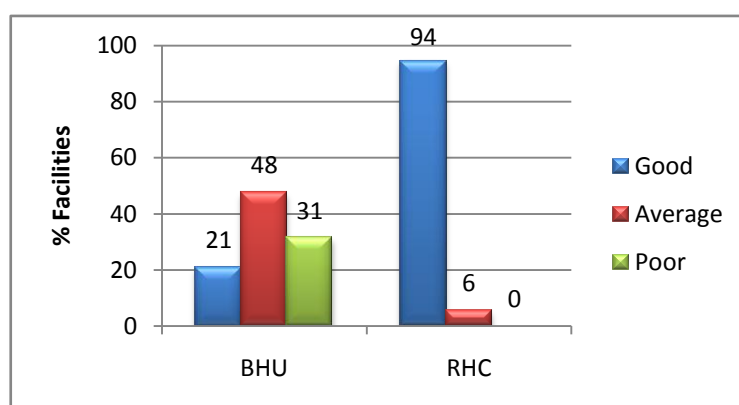


Figure 16: Condition of infrastructure at BHU and RHC levels

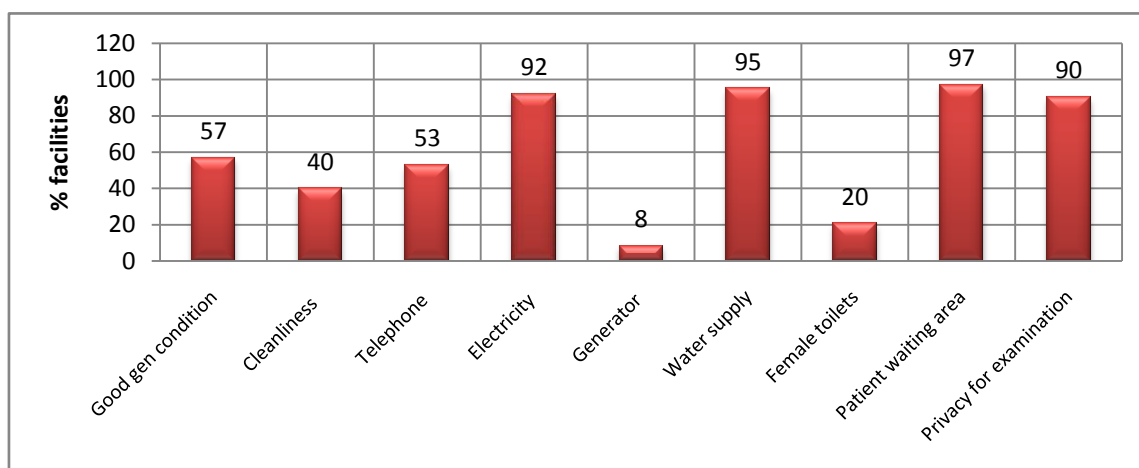
In facility-wise comparison, 94% of RHCs had good infrastructure. However, the condition of infrastructure in most BHUs was unsatisfactory; only 21% BHUs had good infrastructure while 48% had average and 31% had poor infrastructure. (Fig 16 and annex 4-A)



On comparison of individual items in infrastructure, the quality of building was compromised due to non-availability of separate toilet facilities for males and females and the level of cleanliness. Other amenities such as water supply, electricity and privacy for examination of clients were available in more than 90% of the facilities. (Fig 17)

The source of water supply in more than 90% of BHUs and more than 80% of RHCs

Figure 17: Status of infrastructure at health facilities by item



was motorised pumps or hand pumps. Piped water supply (community supply) was

available only in those RHCs (17%) and BHUs (4%) that were located near urban areas. (Annex 4.2-A)

In district-wise comparison, poorest conditions of infrastructure were observed in district Sargodha (63%) followed by district Gujranwala and Kasur (42% each). The condition of infrastructure in district Toba Tek Singh was better than all other districts; here only 5% facilities had poor infrastructure conditions. (Annex 4.2-B)

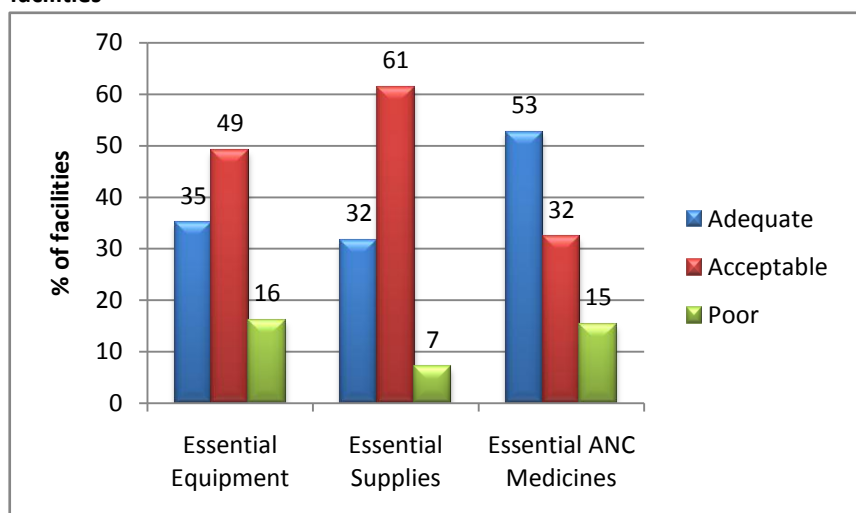
The inferential analysis revealed that the infrastructure of 71.3% (95% CI: 64%-78%) of health facilities in Punjab fell below good ranking.

#### 4.2.2 Equipment, supplies and drugs

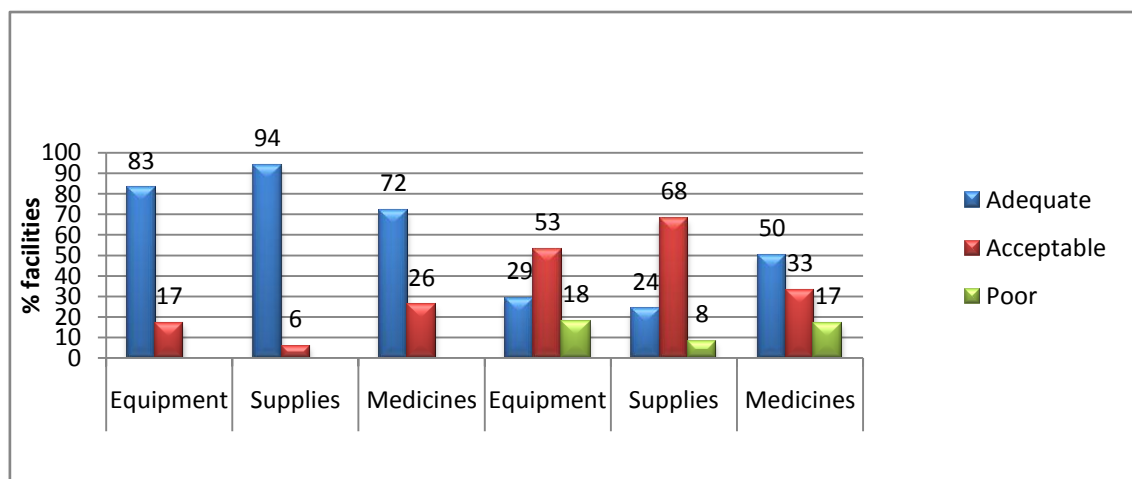
Overall condition of essential equipment, supplies and drugs for ANC was extremely compromised in PHC facilities. Adequate equipment, supplies and ANC medicines were available in 35%, 32% and 53% of the facilities respectively. In rest of the facilities, the availability of these items was below an adequate level. Overall, the availability of equipment, supplies and medicines was much better in RHCs than BHUs. (Fig 18, 19)

In district-wise comparison, the availability of equipment, supplies and medicine was poor in district Sargodha, Gujranwala and Multan whereas it was 100% in Toba Tek Singh. Generally, districts showed similar trends in availability of equipment, supplies and medicines as in infrastructure. (Annex 4.2-B)

**Figure 18: Availability of essential equipment, supplies and medicines at facilities**



**Figure 19: Status of essential equipment, supplies and medicines at RHC and BHU levels**



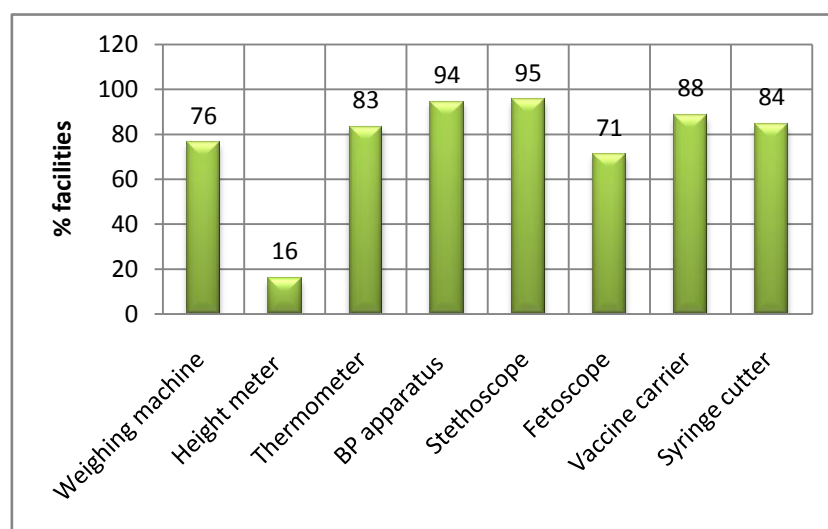
Inferential analysis showed that large gaps remained in provision of equipment, supplies and medicines to achieve above 80% availability. Overall, in Punjab, the gap in equipment availability was 65% (95% CI: 57% to 72%), in supplies 68% (95% CI: 61% to 75%), and in medicines 47% (95% CI: 40% to 55%).

## I. Equipment

Availability of functional equipment at RHC and BHU levels was assessed for various essential items for ANC care. Required equipment including functional weighing machine, thermometer, BP apparatus, stethoscope, vaccine carrier and syringe cutters were available

in more than two thirds of the facilities, but only 16% facilities had a functional height meter. (Fig 20)

**Figure 20: Availability of functional general equipment in facilities**

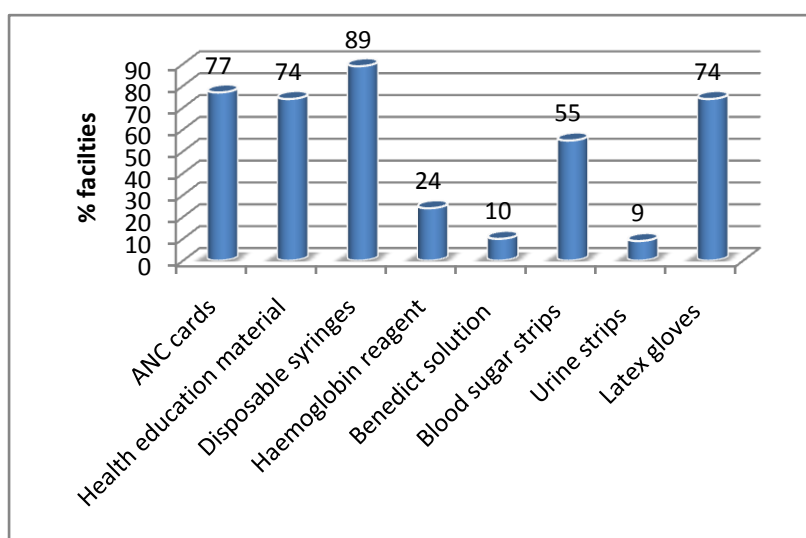




## II. Supplies

Out of the individual essential items in ANC supplies, Benedict solution and urine albumin strips were only available in less than 10% of the facilities at the time of survey. Haemoglobin testing and sugar testing are essential components of ANC. The haemoglobin

**Figure 21: Availability of supply items**

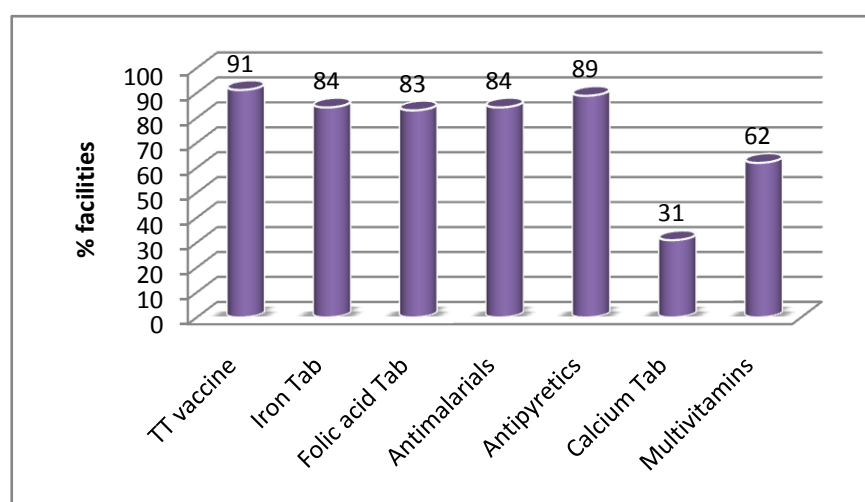


reagent, required to measure clients' haemoglobin, was only available in 24% facilities while blood sugar testing strips were available in 55% of health facilities. Although the supply of ANC cards, disposable syringes, gloves and health education material was above 70%, it was still inadequate. Only disposable syringes were found to be available in adequate quantities. (Fig 21)

## III. Drugs

Availability of ANC-related drugs was assessed at RHC and BHU levels. Most of the drugs were available in more than 80% of the facilities except calcium tablets (31%) and multivitamins (62%). (Fig 22)

**Figure 22: Availability of ANC-related drugs**



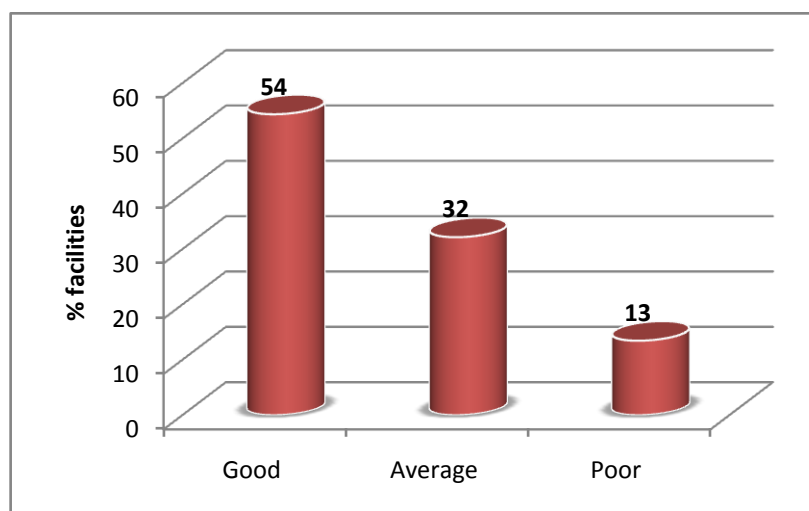
Comparing by the type of facility, availability of TT vaccine was satisfactory (RHC 100% and BHU 90%).

Other drugs were available in lesser number of facilities. Calcium tablets were the least available item on the list and were only available in 50% of RHCs and 29% of BHUs. (Annex 4.2-A)

### 4.2.3 Infection control measures

Status of infection control measures at health facilities was rated good in 54%, acceptable in 32% and poor in 13% facilities. Infection control measures were good in 83% of RHCs while none of the RHCs had poor infection control.

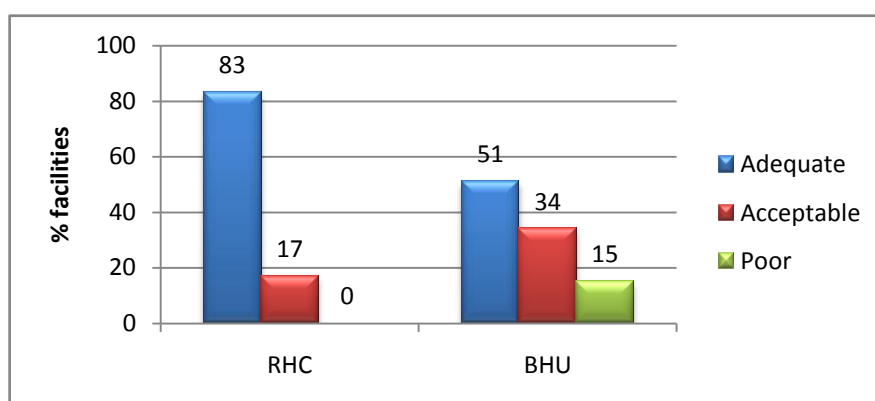
**Figure 23: Practice of infection control measures at facilities**



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In BHUs, however, only 51% had good infection control while in 15% BHUs infection control measures were found to be poor. (Fig 23 & 24)

**Figure 24: Availability of supplies and equipment for infection control at RHC and BHU levels**

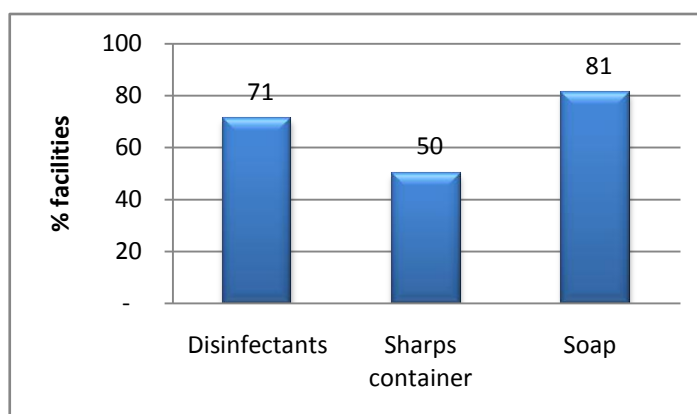


most frequently observed in district Gujranwala (32%) followed by district Sargodha and Multan (26% each). Infection control measures in facilities in district Toba Tek Singh and Bahawalnagar were better than all other districts. None of the facilities in these districts had poor infection control measures. (Annex 4.2-B)

The inferential analysis showed that 45.6% of all health facilities did not have good infection control measures and this gap varies from 38% to 53% of facilities at 95% of confidence limits.

Out of individual items for infection control, disinfectants and soap were available in nearly three fourths of health facilities whereas sharps containers were available in only 50% facilities. (Fig 25)

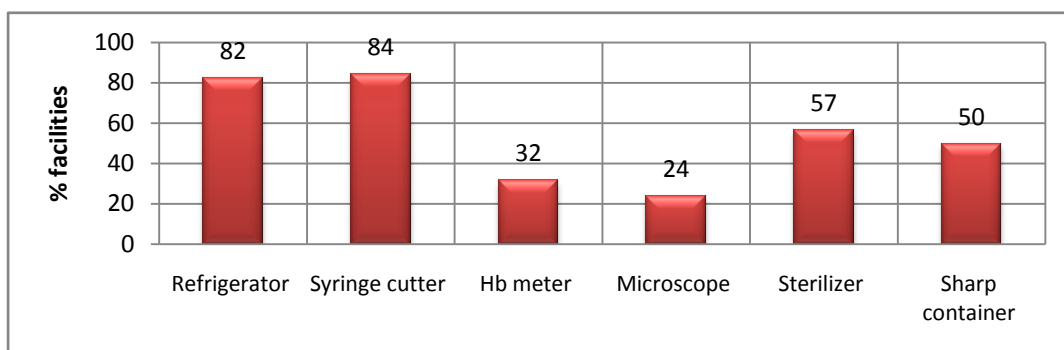
**Figure 25: Availability of infection control items**



#### 4.2.4 Laboratory equipment and supplies

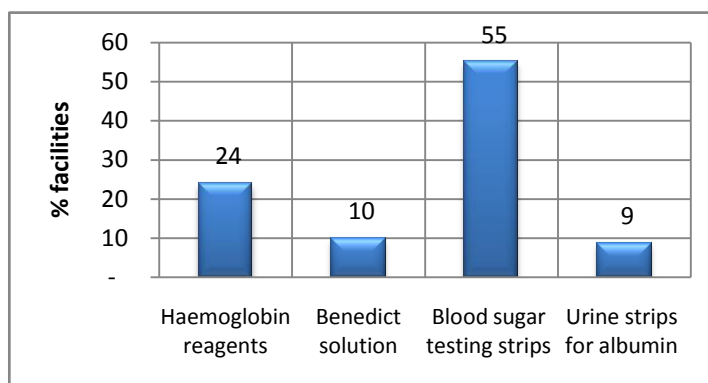
Status of laboratory services was assessed by availability of laboratory equipment and supplies at RHC and BHU levels. Status of essential equipment and supplies is depicted in the figures below.

**Figure 26: Availability of functional laboratory equipment**



In lab equipment, a functional refrigerator and syringe cutters were available in most facilities but functional haemoglobin meters and microscopes were available in less than half of the facilities. A functional sterilizer and a sharps container were available in 57% and 50% of the facilities respectively. (Fig 26)

**Figure 27: Availability of laboratory supplies**



Among lab supplies, blood sugar test strips were available in more than half (55%) of the facilities whereas haemoglobin reagent, Benedict's solution and urine strips for albumin were available in less than one fourth of facilities. (Fig 27)

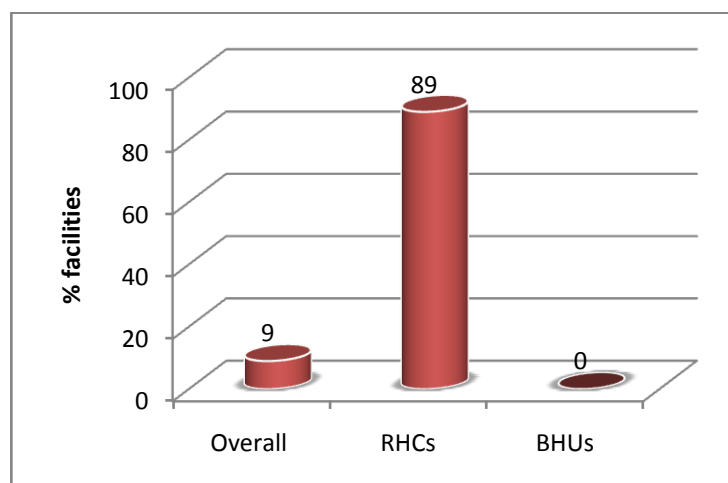
Overall availability of lab equipment and supplies was adequate in only 11%, average in 19% and poor in 70% of the surveyed health facilities. In facility-wise comparison 94% of RHCs had good ranking while 99% of BHUs were below good ranking regarding lab equipment and supplies. (Annex 4.2 A &B)

Inferential analysis showed that 84% to 93% of the health facilities lacked essential ANC laboratory equipment and supplies.

#### 4.2.5 Package of ANC lab tests

**Figure 28: Availability of complete package of ANC lab tests**

Availability of a complete package of ANC laboratory tests was assessed in all surveyed health facilities. This package included blood complete, haemoglobin, urine sugar, blood sugar, urine protein, and a complete urine test. Overall only 9% facilities had the full package of ANC tests available and all of these facilities were RHCs. None of the BHUs was able to provide the full package of ANC tests. (Fig 28 and Annex 4.2 A &B)

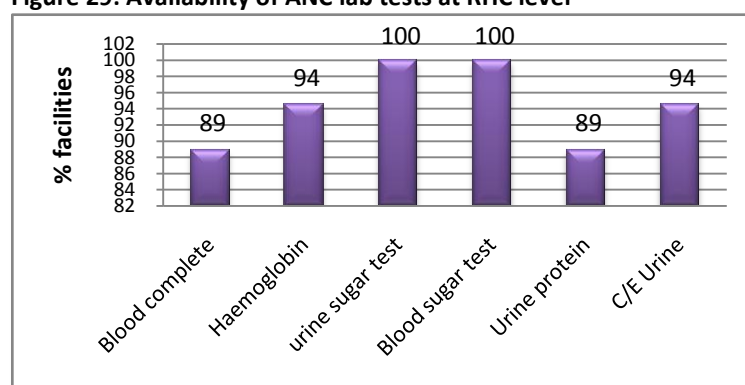


Most of the laboratory tests for ANC were available at RHCs but apart from blood sugar test (46%) other tests were available in very few BHUs.

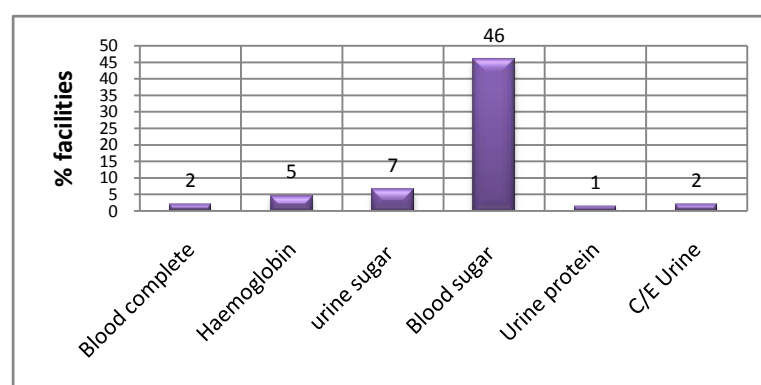
However, at BHU level, while blood sugar tests were available in 46% facilities, other tests were done at less than 10% of BHUs. (Fig 29, 30)

Inferential analysis revealed that 85% to 94% health facilities in Punjab lacked essential ANC lab tests package.

**Figure 29: Availability of ANC lab tests at RHC level**



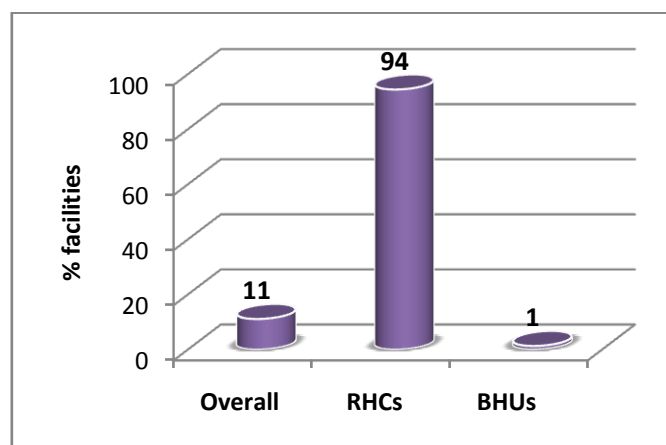
**Figure 30: Availability of ANC lab tests at BHU level**



## 4.2.6 Transport

**Figure 31: Ambulance availability at health facilities**

Ambulance service was available at RHCs but only a few BHUs had transport facilities which were provided by special programmes. The study revealed that overall ambulances were available in only 11% facilities. Out of the available ambulances, 94% were available in RHCs and only 1% in BHUs. Out of all available ambulances, 84% vehicles were functional. In almost all (95%) cases the vehicles were provided by the government. (Fig 31 and Annex 4.2 A)

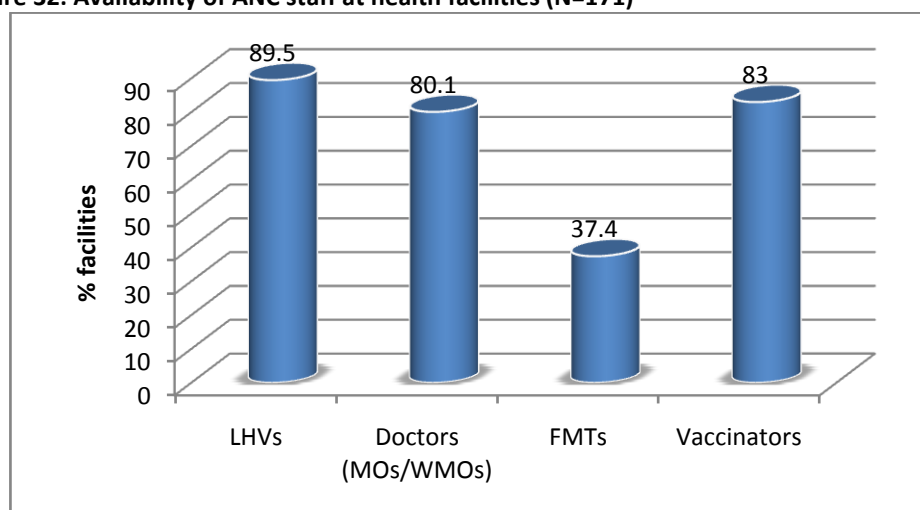


Inferential analysis revealed that there was a serious lack transport services at BHU level that accounted for 83% to 93% of health facilities in Punjab.

#### 4.2.7 Staff

ANC staff availability was assessed at RHC and BHU levels. This staff includes LHVs, MOs/WMOs, Female Medical Technicians (FMTs) and Vaccinators. Staff availability status is shown in the following figure.

**Figure 32: Availability of ANC staff at health facilities (N=171)**

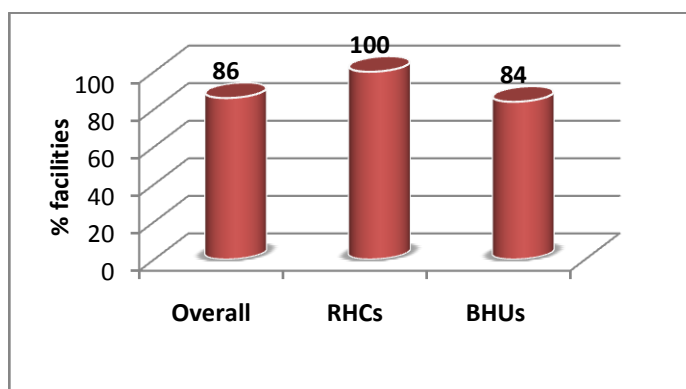


The availability of LHVs, MO/WMOs and Vaccinators was relatively high at 89.5%, 80.1% and 83% respectively while FMTs were available in 37.4% of the health facilities. (Fig 32)

### 4.3 Referral System

**Figure 33: At least one referral by community health workers**

Community health workers (CMWs) are supposed to refer complicated cases to the appropriate level of health facility. The survey revealed that overall 86% facilities received such referrals from CMWs including all RHCs and 84% BHUs. (Fig 33)



Cases referred by Lady Health

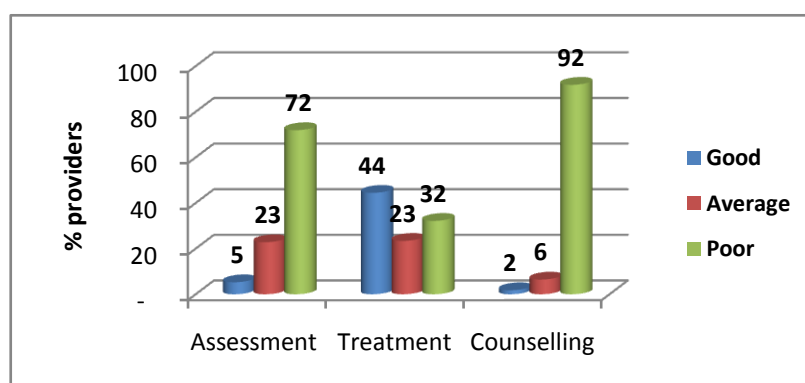
Workers (LHWs) were reported from 147 health facilities and the number of referrals varied from minimum of one upto 150 cases per month. Mean referral was 20 with  $\pm 22$ . No records were maintained in 24 of the sampled health facilities. Mean referral for ANC by CMWs was  $1 \pm 3$  cases.

#### 4.4 Service quality

Health workers' performance was evaluated in three aspects of ANC i.e. assessment (key history points, key aspects of prior and current pregnancy, key examination points), treatment (iron and folic acid supplements and tetanus toxoid), counselling (wrote on the ANC card, client can correctly describe how to administer, purpose and side effects of all drugs given or prescribed, client given TT injection can explain its purpose, client counselled about nutrition, planning for delivery and warning signs for return to facility, exclusive breast feeding, and family planning after delivery).

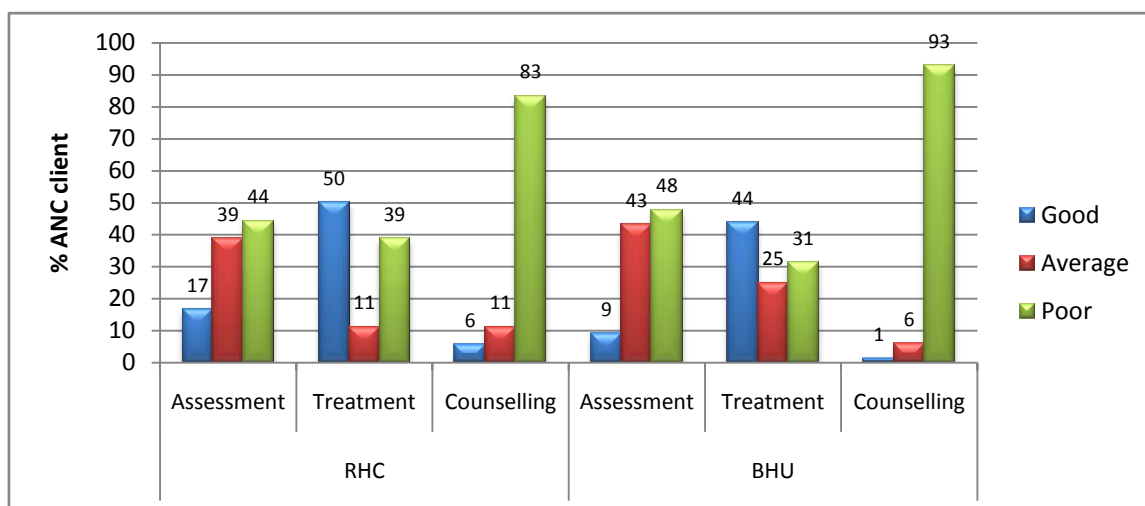
As evident from figure 34, overall rating for good quality of care was very low for assessment (5%) and counselling (2%), whereas it was good for treatment in 44% of facilities. On the other hand, the quality of assessment was poor in 72%, 32% and 92% of

**Figure 34: Health workers' performance regarding assessment, treatment and counselling of clients**



the facilities for assessment, treatment and counselling respectively.

**Figure 35: Health workers' performance regarding assessment, treatment and counselling of clients at RHC and BHU levels**

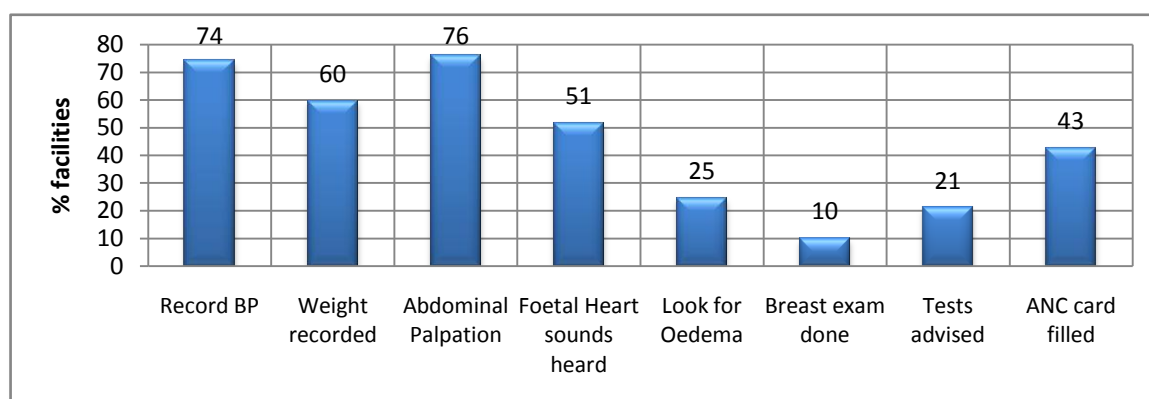


Looking at level-wise performance for assessment of ANC, clients rated 39% of RHCs and 43% of BHUs as average. Almost half of the surveyed RHCs (50%) and BHUs (44%) were rated good in providing treatment but nearly all RHCs (83%) and BHUs (93%) were deemed poor in counselling. (Fig 35)

#### 4.4.1 Quality of client assessment

The quality of client assessment was evaluated by observing the essential steps in clinical history and examination of ANC clients.

**Figure 36: Performance of HCPs in physical examination of ANC clients**



Assessment of ANC client was evaluated by observing practices of health care providers regarding physical examination. While it was observed that BP recording and abdominal palpation were practiced in about two thirds of facilities, breast examination (10%), checking oedema (25%) and advising tests (21%) were the least practiced items. (Fig 36)

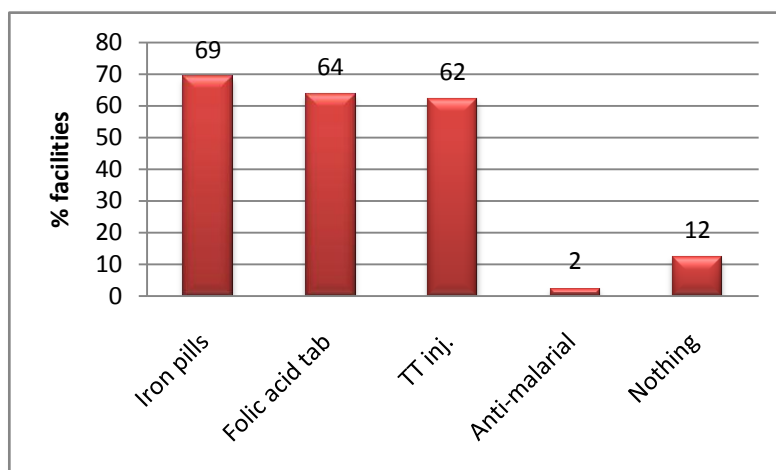
#### 4.4.2 Quality of treatment

**Figure 37: Prescription of drugs to ANC clients**



Treatment of ANC clients was assessed by observing practices of health care providers regarding prescription of drugs.

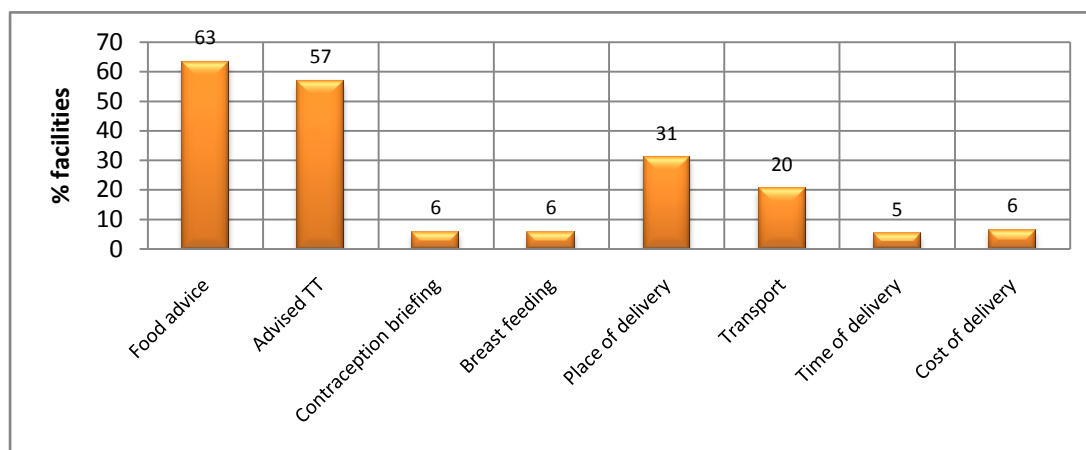
As evident from figure 37, the prescription of iron and folic acid tablets and TT injections were practiced in more than 60% of facilities but anti-malarials were prescribed in only 2% of facilities.



#### 4.4.3 Quality of counselling

The status of counselling services was assessed at facility level by noting various aspects of counselling of ANC clients.

**Figure 38: Status of counselling services for ANC clients at facilities**



The quality of counselling was found to be unsatisfactory; only nutritional advice and TT advice were given in more than half of the facilities while the other components of counselling were practiced in very few facilities. (Fig 38)

District-wise comparison of overall assessment of ANC clients showed that very few facilities were ranked good in most of the districts. In district Toba Tek Singh, Sahiwal, and Rawalpindi 58%, 53%, and 26% of facilities were rated average respectively. Remaining districts had lower ratings.

As far as treatment of ANC clients was concerned, more than 50% of facilities in district Sahiwal and Rawalpindi were rated good. Less than 50% facilities in district Kasur, Multan, Bahawalnagar, Vehari, Toba Tek Singh and Sargodha were ranked good. Only

5% facilities in district Gujranwala were evaluated to have good treatment of ANC clients.

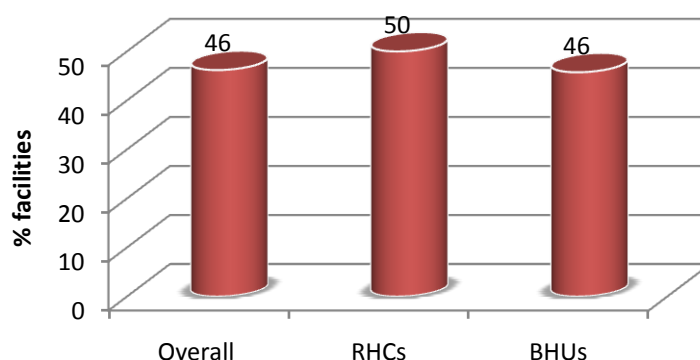
Counselling as part of ANC care was deficient in almost all districts. Out of the districts that fared better than others in this regard, only 11% facilities in district Toba Tek Singh and 5% in Sargodha were practising good counselling of ANC clients. (Annex 4.2-B)

Inferential analysis reveals that ANC assessment by 90% to 97% of providers was not good in quality. The treatment by 48% to 63% of providers was below good standard. The quality of counselling was found to be especially inadequate because 94% to 99% of the providers were not observing the essential counselling steps. These variations were estimated at 95% confidence limits.

#### 4.4.4 Client satisfaction

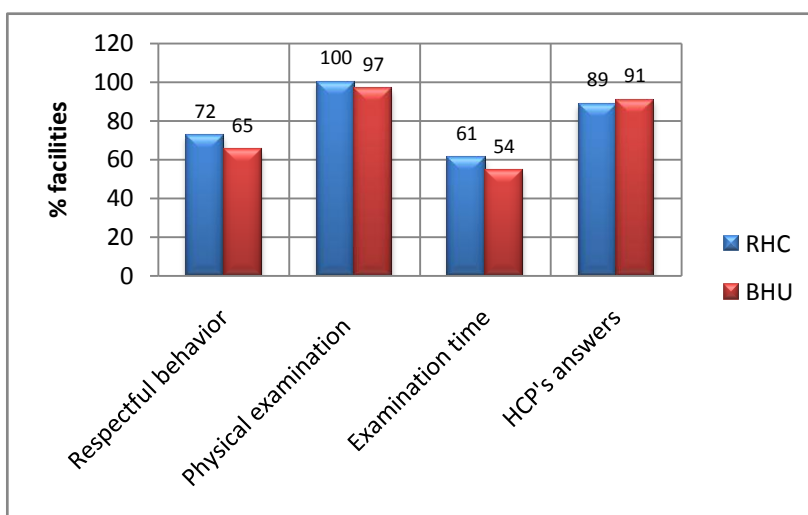
Overall 46% of surveyed facilities had clients who were satisfied with the provided ANC services. The proportion of clients who were satisfied with the services was almost similar in RHCs (50%) and BHUs (46%). (Fig 39)

Figure 39: Client satisfaction with ANC services



Health care providers' interaction with clients was assessed by measuring clients' satisfaction with various aspects of ANC check-up. It was observed that most of the clients were satisfied with physical examination (97%) and answers given by health care providers (91%). Respectful behaviour of health care providers and other staff was a reason of satisfaction in almost half of the facilities. (Fig 40)

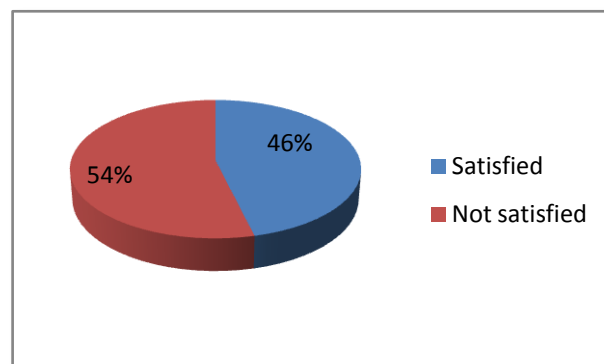
Figure 40: Percentage of clients satisfied with performance of HCPs



As evident from figure 41, overall 46% clients were satisfied with ANC services. District-wise comparison shows that client satisfaction was highest in district Bahawalnagar and Sahiwal (79% each) while it was lowest in district Multan (11%).

Inferential analysis reveals that 46% to 61% of clients were not satisfied with their ANC provider as estimated at 95% confidence limit.

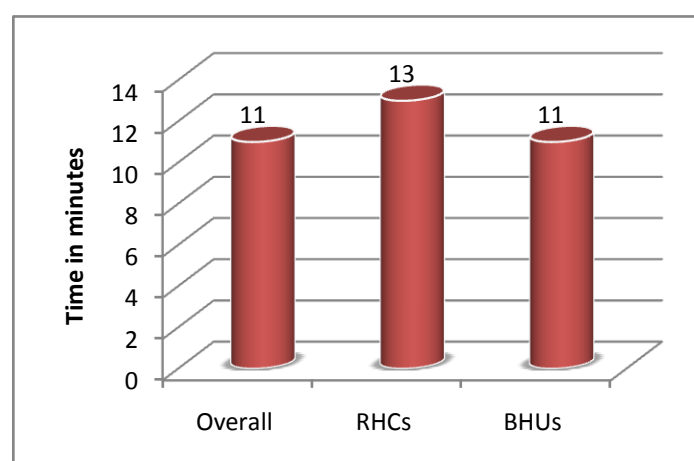
**Figure 41: Overall client satisfaction with ANC services**



Consultation time for patient assessment and treatment ranged from one to 25 minutes. Mean consultation time was 11 minutes with SD of  $\pm 6$  minutes. There was no significant variation by type of health facility. On average, maximum consultation time was given in Multan (19 minutes) while the shortest consultations were provided in Vehari at an average visit length of six minutes.

Mean consultation time of a visit was almost similar in RHCs and BHUs at 13 and 11 minutes respectively. (Fig 42)

**Figure 42: Mean consultation time given by health care provider at RHC & BHU levels**



#### 4.5 Facility performance

Facility performance is described in terms of overall mean annual ANC-1 percentage of expected pregnancies in the sampled districts and district means of ANC-1. In this

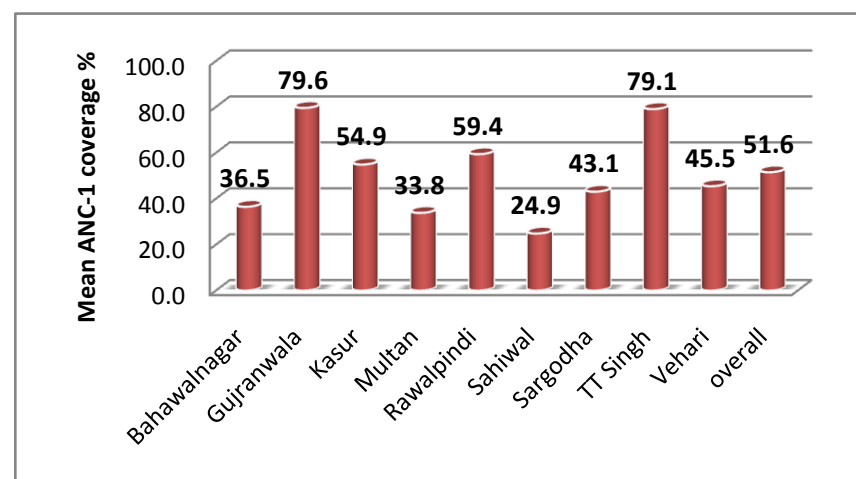
analysis, ANC-1 was reported from 154 facilities where the services were being provided while the expected pregnancies from 171 randomly selected health facilities were used as the denominator. Annual ANC-1 and ANC-2 were compared in 171 facilities with addition of 17 alternative facilities in place of non functional facilities. Other indicators for facility performance were ranking of facilities as good, average and poor on the basis of monthly percentage coverage for ANC-1.

### 4.5.1 Overall annual ANC coverage

ANC coverage percentage was estimated by total reported cases in health facilities and expected pregnancies by catchment area population of the health facilities. For this analysis randomly selected facilities were accessed on first visit of data collection teams.

Overall mean annual ANC-1 percentage was 51.6% in sampled districts. Wide variations were observed among districts in mean

**Figure 43: District-wise and overall mean annual ANC-1 coverage in randomly selected health facilities (N=171)**

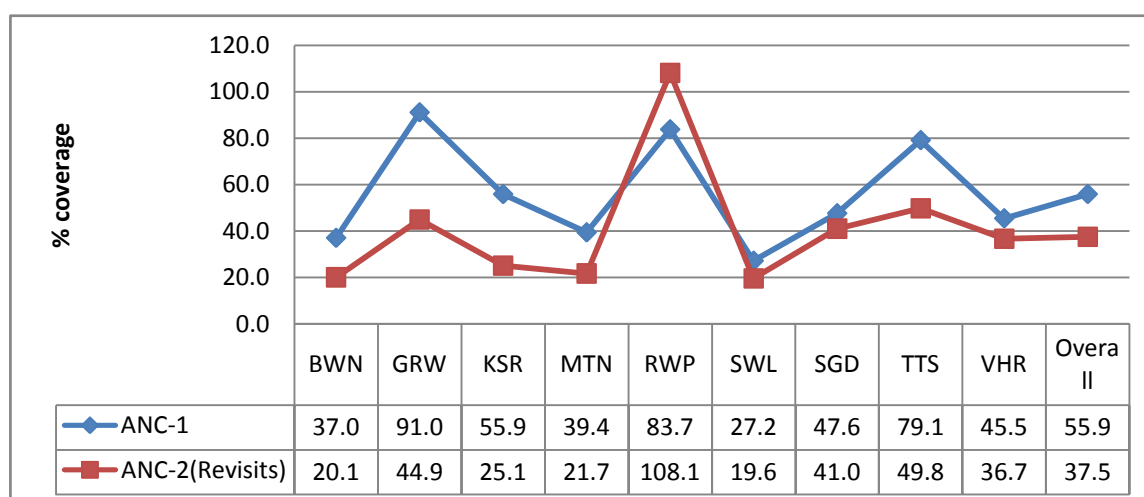


ANC-1 coverage. Maximum coverage was observed in district Gujranwala at 79.6% followed by district Toba Tek Singh with 79.1% ANC-1 coverage annually. Minimum mean coverage was reported from district Sahiwal at 24.9% followed by district Multan at 33.8%. Out of the whole sample, five districts—Multan, Vehari, Bahawalnagar, Sahiwal and Sargodha—had coverage below overall mean and four districts—Gujranwala, Rawalpindi, Toba Tek Singh and Kasur—had ANC-1 coverage above overall mean. (Fig 43 & Annex 4.3)

### 4.5.2 Annual ANC-1 and ANC-2 visits in target facilities

Annual ANC-1 visit percentage was increased from 51.6% to 55.9% when the data from alternative facilities was added to the analysis. Annual ANC-1 and ANC-2 (revisits) could only be compared by using data that included both target sample data and alternative facilities. Although the data about revisits did not give any information about the number of visits of a particular client, the comparison of ANC-1 and ANC-2 revealed that there was an overall dropout of 32.8% in ANC-2 compared to ANC-1. This was contrary to expectation as the revisits should have been more than the ANC-1 visits. The interesting finding in this regard was that after the first ANC visit, there was an overall dropout in visits in all the districts except Rawalpindi where there was a 29.1% increase in the number of subsequent visits. (Fig 44 & Annex 4.4)

**Figure 44: District-wise comparison of annual ANC-1 and ANC-2 percentage**



Close observation of the situation in Rawalpindi revealed that there were six facilities in the district where WMOs were available on a regular basis. These facilities were catering to more clients than predicted by estimates based on the catchment area population. The number of clients in these facilities was higher because clients from catchment areas of other facilities were visiting these facilities because of availability of services. The number of revisits was also higher in all these facilities than ANC-1. The detail of a special case study in RHC Bugga Sheikhan is given as an example in Box 4.1.

#### **Box 4.1: A Case Study**

A team was sent to RHC Bugga Sheikhan in April 2011 in district Rawalpindi to explore the reason for unexpected reports of facility performance for ANC-1 and revisits under the supervision of Dr. Shazia Batool. The team observed that the RHC Bugga Sheikhan is located near Grand Trunk (GT) Road where two WMOs are posted in addition to other facility staff. One WMO is appointed in a government vacancy and the other on a special vacancy created by the MNCH programme. Both doctors had training in radiodiagnostics (ultrasound). The RHC had an ultrasound machine and ultrasound scans were performed free of cost for all patients and clients.

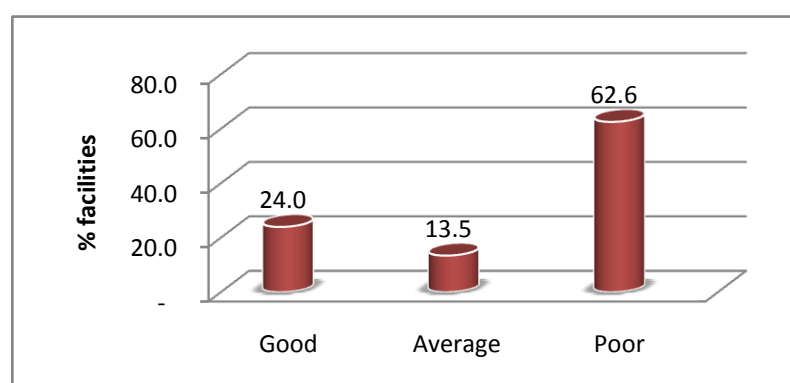
The estimated number of pregnancies for the facility was 675 according to

catchment area population determined by provincial MIS. Yet 1547 women came to the facility for ANC-1 and 1815 for revisits in one year. According to the health facility in-charge, the number of ANC-1 visits was more than expected because clients were coming from nearby localities not included in the catchment area of the RHC e.g. from the large town of Rwat on main GT Road and from the catchment area of BHU Chapper Pari, etc. Similarly, revisits were higher due to availability of WMOs and ultrasound services in the health facility. It can be deduced from this case study that the availability and accessibility of services, staff training and facility resources are major factors attracting the clients for ANC services to a facility.

### 4.5.3 Ranking of facilities for ANC-1 coverage

ANC coverage facility ranking revealed that overall only 24% facilities achieved a good ranking, 13.5% had average and 62.6% facilities had poor ranking in monthly ANC-1 coverage. (Fig 45) ANC-2 visits followed a similar trend. The inferential analysis shows that there was a coverage gap of 76% with 95% confidence limits from 69% to 82% of facilities to achieve >80% ANC coverage. In comparison by type of facility, 56% of RHCs were providing good coverage compared to only 20% of BHUs. Thus more than half of RHCs had a good ranking for coverage while 80% BHUs had poor or average ranking. In district-wise comparison, Toba Tek Singh had the best coverage where more than half of the facilities had a good ranking followed by Rawalpindi and Gujranwala. In the rest of the districts more than 70% of the facilities got poor ranking. (Annex 4.2 A & B)

**Figure 45: Monthly ANC-1 coverage ranking of facilities (N=171)**



## SECTION V

### ASSOCIATION BETWEEN RESOURCES, QUALITY AND PERFORMANCE

The effect of availability of resources, as an independent factor, was studied on facility performance and quality of ANC services in terms of client assessment and client satisfaction. The effect of quality of services was studied with the quality of assessment as independent factor and client satisfaction as dependent factor.

#### 5.1 Resources and facility performance

The availability of resources was compared in means and percentages. In comparison of means the availability of facility resources was categorised as >80% or <80% and mean monthly ANC-1 coverage was compared in both categories. The mean ANC-1 was also compared at cut-off value of >60% and <60% of resources. In comparison of percentage, the facilities were compared depending on whether their level of coverage was above or below 60%. Correlation of resource items with mean monthly coverage of ANC was also estimated. The results of the comparisons are given in the following paragraphs

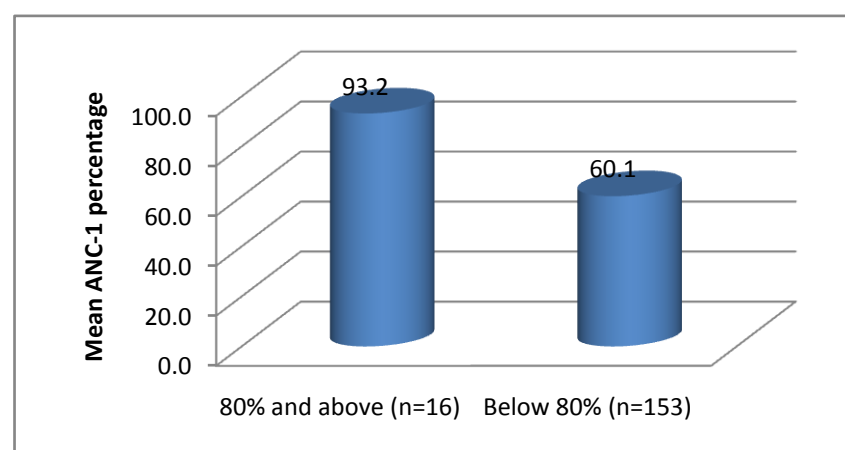
##### 5.1.1 Facility resources and monthly mean ANC-1

Availability of resources was compared with the monthly mean ANC-1 coverage. It was observed that mean ANC-1 coverage percentage among facilities with >80% of the resources items was 93.2% and with resources items  $\leq$ 80% was 60.1%. Thus the mean ANC-1 percentage coverage was significantly higher at the facilities with more resources as

compared to those where less resource items were available ( $p < 0.05$ ). (Fig 46 & Annex 5.1)

The mean ANC-1 coverage percentage among facilities with availability of >60% of resource items was 76.1% and in facilities with resources items  $\leq$ 60% was 42.7%. Again the mean ANC-1 percentage coverage was significantly higher in the facilities with higher percentage of resources availability at ( $p < 0.05$ ). (Annex 5.1).

Figure 46: Association of mean ANC-1 coverage with availability of resources



Statistical analysis

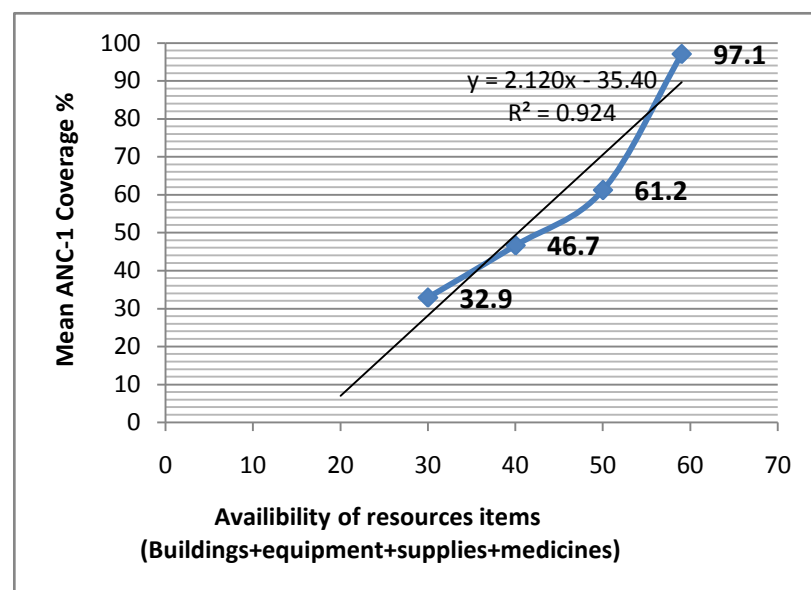
t value = 2.13      p value = 0.034 ( $p < 0.05$ )



### 5.1.2 Correlation of resources and mean ANC-1 percentage coverage

A curve of resources against ANC coverage was generated by using 59 resource items including resources for building, equipment, supplies, and medicines. Mean ANC-1 at 30, 40, 50 and 59 resource items was 32.9%, 46.7%, 61.2% and 97.1% respectively. It is interesting to note that the increase in facility performance was very slow when available resource items were 50 or less but the curve rose abruptly, giving ANC-1 coverage of up to 97.1%, as the resources increased to all essential

**Figure 47: Association of availability of resources items and mean ANC-1 coverage %**



items. Hence there is a linear correlation between availability of resources and facility performance in ANC-1 ( $R^2=0.92$ ). There is a threshold at about 80% of resource items where performance is abruptly increased to almost 97%. (Fig 47)

### 5.1.3 Comparison of percentage of resources and monthly ANC performance

The effect of availability of resources on facility performance was observed in terms of ANC-1 and ANC-2 as outcome indicators. Facility performance was categorised on the basis of ANC coverage being  $>60\%$  or  $\leq 60\%$ . Facility resources including infrastructure, equipment, drugs, and supplies were also categorised as  $>60\%$  or  $\leq 60\%$  on the basis of availability of items in the resource item list. In individual comparisons, all resources positively influenced the facility coverage, but the effect of infrastructure and drugs was significant at  $p=0.05$  and equipment at  $p=0.1$ . The association of individual supplies with performance was not statistically significant. Percentage of facilities with ANC coverage more than 60% was higher among those facilities which had  $>60\%$  of individual resources compared to the facilities with  $\leq 60\%$  resources. It was interesting to note that collective availability of all resource items (infrastructure, equipment, drugs and supplies) was significantly associated with better coverage. Percentage of facilities with coverage  $>60\%$  was significantly higher in facilities with collective availability of resources  $>60\%$  compared to facilities with collective resources  $\leq 60\%$  ( $p=0.001$ ). (Annex 5.2)

A similar association was observed between facility resources and facility performance in terms of revisits for ANC. In individual resource comparison, although the availability of an individual resource positively influenced ANC revisit performance but the effect was not statistically significant. When collective availability of resources was compared with facility performance the percentage of facilities with  $>60\%$  ANC-2 coverage was significantly higher among facilities with collective resources (infrastructure, equipment

drugs and supplies) >60% compared to those with ≤60% availability (p=0.002). (Annex 5.2)

### **5.2 Effect of facility resources on client assessments**

In assessing the effect of availability of resources on client assessments, the collective availability of all resource items (Infrastructure, equipment, drugs and supplies) was significantly associated with better client assessments. Percentage of client assessment of >60% was significantly higher in facilities with collective availability of resources of >60% compared to facilities with collective resources of ≤60% (p=0.001). (Annex 5.2)

The association of individual resources (Infrastructure, equipment, drugs or supplies) with client assessments was not statistically significant.

### **5.3 Effect of facility resources on quality of counselling**

When quality of counselling was compared with resources availability by using chi-square statistical test, it was observed that the percentage of good quality of counselling was 71.4% in facilities with resources items >60% compared to 28.6% in facilities with resources items ≤60%. The quality of counselling was significantly associated with availability of resources (p value for chi-square <0.001). (Annex 5.2)

### **5.4 Effect of facility resources on client satisfaction**

The effect of availability of facility resources on client satisfaction about the services provided by the health care provider was studied. In the analysis of the effect of individual resources, all resources positively influenced client satisfaction but the effect of equipment was significant at p=0.05 and drugs at p=0.1. The associations of infrastructure and supplies individually were not statistically significant. The collective availability of all resource items (Infrastructure, equipment, drugs, and supplies) was significantly associated with client satisfaction. The percentage of clients with satisfaction of >60% was significantly higher in facilities with collective availability of resources of >60% compared to facilities with collective resources of ≤60% (p=0.013). (Annex 5.2)

### **5.5 Effect of quality of clinical assessment on client satisfaction**

The quality of assessment (history and clinical examination) was compared with level of client satisfaction. The percentage of satisfied clients was 66.7% in facilities where providers observed >60% of the steps of assessment as compared to 42.2% in those facilities where ≤60% assessment steps were followed. Thus a better quality of assessment was positively associated with the level of client satisfaction (p=0.002). (Annex 5.2)

## SECTION VI

### QUALITATIVE FINDINGS

The institutional capacity of the district health system for ANC was evaluated through quantitative approach and presented in terms of measurable indicators in the previous two sections of the report. The qualitative approach in Punjab ANC Services Assessment Study was objectively designed to comprehend the triangular relationship among clients, providers and health managers that constitute the tripod of the health system. Harmonious interactions of clients, providers and health managers can enhance the system efficiency and acceptance significantly while the reverse can happen due to discordant interaction in the system stakeholders. Therefore, in addition to institutional capacity in terms of facility resources, quality of services and facility performance, the health policy stakeholders must have insight into the factors that affect the mutual relationship of clients, providers and health managers.

For qualitative assessment, FGDs and in-depth interviews were undertaken to synergise with the quantitative findings but the primary objective of the qualitative assessment was to study the mutual interactions of clients, providers and health managers that influence the quality of ANC services. A brief introduction of the respondents of qualitative research interviews and discussions is given below.

**ANC clients:** The clients were pregnant women mostly from lower socioeconomic strata of rural areas of Punjab. They generally spoke Punjabi in different dialects, i.e. Saraiki in Southern, Lahori in Central and Pothohari in Northern Punjab but all of them could understand Urdu well. As end-users of the district health system they expected ANC services to be available, accessible and acceptable without undermining their social norms and customs. The clients were evaluated through FGDs for which objectively developed themes were used. These themes were focused on felt needs, health seeking practices, and socio-cultural barriers for availing ANC. It also covers the experiences of clients with facility staff during service provision. Client awareness, role of community based service providers and gender empowerment issues were also included in themes.

**ANC providers:** Although the ANC providers in health facilities include WMOs, LHVs and FMTs, LHVs are the most frequently available providers. They are formally trained to provide MNCH services and they are posted in almost every PHC health facility. Therefore, for qualitative assessment, LHVs were selected as the main target group for FGDs. The themes for providers were related to working environment, trainings, facility resources, socio-cultural factors influencing the ANC services provision process and role of community based service providers.

**Health managers:** There are three important tiers of health management i.e. facility in-charges, district and provincial health managers. Facility in-charges serve as a link between providers and district/provincial health managers. They are medical graduates qualified as MBBS and trained as providers but they perform a dual role (service provision and management) when appointed as in-charge in a health facility. The official designation for males is Medical Officer (MO) and for females Women Medical Officer (WMO). They coordinate with district health managers for the management of routine integrated health services including ANC. As research participants of qualitative

assessment, MOs and WMOs were selected as a target group for FGDs at provincial level. The specific themes for facility in-charges were covering facility resources, trainings, workload, socio-cultural and political issues influencing ANC services utilization.

Executive District Officers for Health (EDOHs) are at the top of management hierarchy of the district health system. The District Officers Health (DOHs) are below them and specifically manage PHC services in a district. Their postings and transfers are undertaken by the provincial health managers. After the devolution under the Local Government Ordinance (LGO 2001), the districts were given both financial and functional authority to manage health services in the district. Before the devolution, the role of these managers was limited to implementation of the policies and plans prepared by federal and provincial health ministries but after devolution the district are autonomous to set their own priorities and make their district health plans. However, district capacities are limited in this regard. In the current capacity, district health managers have a pivotal role in health services management. They have to manage and supervise the routine integrated health services in the district and also play coordinating role in implementation of vertical programmes and projects. The district health managers were evaluated through in-depth interviews, and the themes used for these interviews focused on ANC district targets, Management Information System, monitoring and evaluation, HR policy issues, supervision and feedback, facility resources and socioeconomic issues influencing the coverage and quality of ANC services.

Secretary Government of the Punjab Health Department has the top hierarchical position as the provincial health manager. Another important management tier at provincial level is Director General Health Services (DGHS), Punjab. The DGHS is more directly concerned with PHC and special programme management. DGHS has a key role in development and implementation of provincial health policies. Directors of various special programmes, e.g. MNCH, EPI, Malaria, LHWs programme,<sup>3</sup> etc., are working directly under DGHS Punjab, therefore for qualitative assessment provincial level representation was given to the DGHS, Director MIS and Director MNCH programme. Provincial health managers were evaluated in in-depth interviews that covered specific themes objectively designed for provincial managers including grasp of ANC policies, interventions, monitoring, evaluation and supervision of these services. They also included HR issues, facility resources and socio-cultural factors influencing ANC coverage and quality.

Although different modalities and themes were exercised to evaluate the different respondents of qualitative assessment, the findings were synthesized and described under the six broader areas of ANC that cover the objectives of the qualitative assessment. Perceptions of all categories of respondents are presented under 1) the availability of ANC services; 2) the institutional efficiency for the provision of ANC services; 3) the quality of ANC services; 4) the current patterns of utilization of first-level ANC services; 5) the pattern of decision making and gender empowerment and 6) MDGs and ANC services policy issues.

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<sup>3</sup> As the human resource personnel working at community level are Lady Health Workers (LHWs), the programme is also commonly known as the LHW programme.

## 6.1 The availability of ANC services

The availability of the ANC services entails some minimum infrastructure, equipment, services, and service providers. The management was generally very open in describing the inadequacy of the building infrastructure particularly at the BHU level. LHVs gave a critical appraisal of the availability of ANC services at the health facility. Among them there was a general feeling of lack of patronization and ownership by their supervisory staff. There was an impression that the supervisory staff was following the general business principle that 'the customer is always right'. Staff shortage was specifically pointed out at centres which were upgraded recently for around-the-clock services. The majority of participants in FGDs said that they were working for more than eight hours a day which created problems for them. The views of ANC providers and clients are given in the boxes 5.1 & 5.2 respectively.

The FGDs gave the impression that most of the client participants were aware of the need for antenatal care services. This impression emerged from the multiple advantages enumerated by the participants which included provision of diagnostic knowledge about the health of the baby and the mother, monitoring the growth of the baby as well as the condition of the mother, information about the position of the child thereby telling whether the delivery will be a normal one or whether the woman may have to have an operation, during antenatal check-up visits women get TT vaccination which is very important for the mother and the safe delivery of the baby, and helps in taking preventive as well as curative measures for any unexpected eventualities for the baby and/or mother. But knowledge about what constitutes comprehensive antenatal care appeared to be deficient as indicated from the opinions about only one check-up during pregnancy, no consensus about when to start ANC and how frequently check-ups should be done, what procedures were involved in antenatal check-ups, and for most of the participants the antenatal check-up was equivalent to an ultrasound which needed to be conducted periodically.

### Box 5.1: Views of ANC providers (LHVs)

- *There is staff shortage at facilities running 24/7. Midwives, dispensers, and sanitary workers are often absent. We have to run the dispensary, conduct deliveries, and do the cleaning as well i.e. perform the duty of sanitary workers.*
- *BHUs are located in the jungle. How can an LHV reach a BHU for work?*
- *A few buildings (of the health facilities) are just four walls or virtually a heap of bricks.*
- *There is no public transport facility available to reach most of the BHUs situated in distant areas.*
- *Now-a-days ultrasound is considered to be a necessity throughout pregnancy and pregnant ladies are very interested in having their ultrasound to get information about the sex of their expected child.*
- *Fifty percent of the women visiting my centre only come for their ultrasound but when I offer them only an antenatal check-up, they do not seem to be interested in the next visit.*
- *The doctor's visit to the BHU is very infrequent. It is once a month and often it is not feasible for pregnant ladies to visit BHU on that specific day*

### Box 5.2: Perceptions of clients about ANC

- *ANC check-up helps in diagnosing the normal*

It was pointed out that the deliveries usually came at late hours and it takes more than eight hours to complete the process. Due to the timing of the BHUs/RHCs and unavailability of the staff after working hours, the clients had no option but to

*development of the foetus*

- *It helps in finding out if there are any complications related to pregnancy*
- *It gives information about the position of the child thereby telling whether the delivery will be a normal one or the if woman may have to have an operation*
- *It help in assessing the health of the mother by measuring her blood pressure as well as by diagnosing any blood deficiency*

visit a private hospital or consult a Dai for her delivery. Given this perception, the clients prefer to visit Dai and/or private hospital from the beginning of the pregnancy.

Medical Officers participating in FGDs said that the working environment, staff, supply of medicines, and equipment at the health facility were satisfactory while LHVs and the women clients had entirely different views on these issues in their FGDs.

## 6.2 The institutional efficiency for provision of ANC services

The discussions related to institutional efficiency for ANC services pointed out issues related to supplies, human resources, referral system, utilisation of health facilities by clients, availability of transport, and the role of community based providers. The views of the ANC providers (LHVs) are given in Box 5.3. These issues are further discussed in detail below.

### 6.2.1 Supply-related issues

During interviews and FGDs, management gave the impression that supplies and equipment were available at the BHU level. At some places BHUs have been outsourced to the Punjab Rural Support Programme (PRSP) to improve the institutional efficiency of the units while at others procurement procedures have been laid down. No one could give a specific situational analysis of the supplies which emerged to be the major issue in FGDs with the LHVs and the end-user clients. The Medical Officers in their FGDs said that the staff, medicines, and equipment status at the health facility was satisfactory.

Lady Health Visitors were quite vocal about the short supply of medicines, sub-standard medicines, and lack of necessary equipment such as stethoscopes and BP apparatus. There was a strong opinion among LHVs that unavailability of diagnostic facilities, referral slips, maternal cards and transport facility hindered the smooth delivery of ANC services to pregnant women. Several participants in FGDs said that the current working hours of 8am to 2pm were inadequate for satisfactory provision of antenatal care and attracting clients.

### 6.2.2 Human resource issues

The management was very conscious of the shortage of health care staff posted at the BHU/RHC. Some of the important reasons mentioned included the issues related to the environment of these facilities such as the isolated location of the facility, unavailability of transport, lack of educational opportunities for the children of the staff, poor living

arrangements, security concerns, lack of an enabling environment for female staff, and the lack of incentives. These issues had a bearing on the retention of health professionals as well as their efficient performance of duties as judged by their regularity, punctuality, and professional commitment.

Most of the Medical Officers participating in the FGDs stated that the staff required for ANC was adequate, there was enough space and privacy for the provision of ANC services, and there was no problem of the availability of female staff. They also pointed out that guidelines were available to the staff for the proper provision of ANC.

**Box 5.3: Perceptions of LHV's about institutional efficiency**

- *Clients come to the BHU in order to get medicines and have tests such as urine test and haemoglobin test (blood test). They are disappointed when they do not even get simple multivitamins and calcium supplements. We feel helpless in motivating them to revisit the health facility for ANC services in the future.*
- *Necessary equipment such as emergency lights, BP apparatus and weighing machines are either unavailable or out of order due to poor quality of the equipment.*
- *We have such a heavy workload that we try to examine the ANC clients as quickly as possible. In such a short time, it is not possible for us to carry out a proper antenatal check-up including measurements, weight, blood tests and counselling.*
- *All LHV's are not getting the chance of attending the trainings. An element of favouritism in the process nomination of candidate is there. It limits the effectiveness of these trainings. Only a particular group is generally obliged*
- *Once a three month pregnant client came to BHU with pain and bleeding. I successfully managed that case with the help of a doctor and a dispenser.*
- *A doctor's (WMO/MO) visit once a month is not useful at all in providing guidance to LHV's, in helping them handle emergency cases, and in following the process of referral.*
- *The supervisory staff comes only to find faults and to shout at us. It is more about a show of power than support.*
- *Only two hours are provided for visiting clients at home which is impractical as often just travelling to and from the community takes two hours on foot.*
- *Because of our absence from the centre during home visits, clients remain unattended as midwives are not considered reliable.*
- *The present referral system is very complicated. Patients are usually misguided at tertiary hospitals. Mismanagement of cases referred to tertiary hospitals increases distrust amongst community members regarding quality of services provided at BHU and increases their inclination towards private clinics. Other clients follow the bitter experience of the previous patients and avoid visiting BHUs.*

In their opinion, the environment was very congenial for the efficient provision of ANC services which was contrary to opinions of LHV's and female clients.

**Workload issues:** The Medical Officers said that the workload of ANC services was not optimal and hence the resources were not being used efficiently. They were of the opinion that TBAs and LHWs discouraged clients from coming to health facilities. Nevertheless, with the availability of ultrasound, the number of clients had increased.

Majority of the LHV participating in FGDs said that the ANC work was manageable but other tasks increased their workload. For this reason sometimes they could not fulfil the needs of an ANC client.

**Job training issues:** Majority of the MOs participating in FGDs felt that the existing training of lady doctors was insufficient both for ANC and ultrasonography services.

There was a general agreement among the LHV participants about the significance of in-service trainings. Such trainings can help in updating their knowledge and skills and ensure the provision of ANC services in accordance with new scientific protocols.

**Staff cordiality issues:** Majority of the LHV participants reported good working relationships with their seniors and juniors. LHVs usually sought help from seniors in handling emergency cases and in the process of decision making regarding the timely referral of the patients. However, the MOs said that they were having problems with the LHVs and LHWs. In their opinion, the LHVs behaved as if they were not less than doctors.

**Supervision-related issues:** One of the provincial health managers pointed out that there was a regular schedule of supervision visits to BHUs and RHCs. Another provincial manager said that the BHUs had supervisory visits every two months whereas the RHCs were visited every month. There was a check list for this purpose which specified things to be done in supervisory visits.

All the LHVs agreed that supervisory visits could play a critical role in the provision of necessary guidance for efficient performance of their duties. Yet a number of issues were raised related to supervision. One of the most commonly cited issue by LHVs was that the supervisory visits were geared more towards punishment than grooming.

**Home visit related issues:** Home visits are supposed to be a regular activity by the LHVs. Every LHV claimed to have conducted health education sessions with the help of LHWs at their health houses. Yet, home visits to clients in the catchment area were not a routine activity. Some of the issues pointed out by LHVs that hindered home visits were unavailability of transport, time constraints and cultural restraints.

### **6.2.3 Referral system related issues**

The Medical Officers said that the referrals from LHWs and LHVs had to be improved. Incentives should be given to TBAs, LHWs and LHVs for bringing more clients to facilities. Lab and ultrasound facilities provided at BHUs could help motivate women to attend the facilities for antenatal care. They thought that there was also a need for increasing public awareness.

Most of the Medical Officers thought that the status of equipment, supplies, drugs and building structure regarding ANC was satisfactory; the main reason for low ANC coverage was the lack of interest of LHVs, LHWs and TBAs to refer clients to health facilities. This area needed interventions to improve ANC coverage.

Majority of the LHVs expressed frustration with the referral system and graded it as "very poor". According to them record keeping of patients referred to other health facilities was inadequate, because of this the record of follow up visits was missing.

### **6.2.4 Issues of underutilization of health facilities by clients**

Medical Officers, both male and female, were of the view that ANC services were being underutilised. Reasons for underutilization were: i) community based health care providers were easily available around the clock; ii) deficient liaison of facilities with the local communities; iii) low level of awareness about the use of ANC services at the community level; and iv) inadequate transport facility for patients.



There was a general consensus among the LHV's about the issues related to the inefficient use of the BHU/RHC facilities by pregnant women. These issues revolved around the lack of awareness of issues among women as well as their family members, long distances to health facilities, lack of personal as well as public transport, unavailability and poor quality of medicines, unavailability of necessary tests, socio-cultural practices (restriction for pregnant women to go out of homes for antenatal, natal and postnatal care), shyness, household workload and availability of alternatives in the form of spiritual healers as well as quacks (unauthorised/unregistered health care providers).

### **6.2.5 Issues of transport facilities**

Issues related to transport facilities appeared to be a cross-cutting phenomenon which was mentioned by LHV's as well as the women clients. The LHV's experienced transport difficulties for reaching the place of work, leaving the place of work at odd hours, going for home visits and referring the cases to other health facilities.

The referral system was also compromised due to lack of availability of transport to reach the referred health outlet. In certain situations, desperate patients were exploited by those who could provide transport. According to LHV's, some ambulance drivers were playing a negative role in this regard.

One of the provincial health managers specifically highlighted transportation concerns. He said that transport was one of the key issues adversely affecting ANC coverage and provision of quality services. Since BHU facilities were generally located away from community dwellings, it made them inaccessible to prospective clients. He said that the management was addressing this issue by managing the transport services through Citizen Community Boards (CCBs). Vehicles were arranged for the patients through Village Health Committees. Similar views were expressed by the other provincial health manager. There were also plans for the introduction of Mobile Health Clinics.

Managing the transport services through Citizen Community Boards or through Village Health Committee seems to be a good idea and there are examples of such arrangements in certain village communities but these were not mentioned in the FGDs by LHV's or women clients.

### **6.2.6 Role of community based service providers**

The community based service providers closely associated with pregnant women are the Traditional Birth Attendant (TBA) known as *Dai*, the Lady Health Worker (LHW) and the Community Midwife (CMW). A number of these providers have received training in midwifery and antenatal care but many of them have learnt their skills through on-the-job training. LHWs are the government supported providers, while others may have affiliations with the BHUs/RHCs. Nevertheless, all these providers are in the market looking for their service seekers making them potential competitors for each other. This arrangement has negative implications for institutional efficiency and utilization of the ANC services at PHC level.

The Management acknowledged the vital role of Dais, LHWs, and CMWs in ANC coverage. The provincial health managers said that there was a general misperception among clients that the home services provided by these community providers were ANC

services. While domiciliary services have a role in pre and post-natal help and support along with delivery services, standard ANC services need proper medical examination and essential laboratory tests that are not possible at home.

Nevertheless, community health providers they were considered to be the key persons having close liaison with clients because they provided help in household work, provided massage to the prospective mothers in addition to helping them in deliveries. Further, they were available around the clock, seven days a week. The Management considered these community based providers as highly influential to refer the clients for ANC services to the health facility for early diagnosis of high risk pregnancies. Their role in advocacy, sensitization, and referral of cases for ANC services at health facility was considered to be vital.

The majority of Medical Officers believed that CMWs and LHWs did not have liaison and did not cooperate with each other. CMWs, LHWs and LHVs were funded by different departments. They did not have coordination with each other. These government supported service providers were working in parallel for different vertical programmes and had no coordination at the district level. For instance an LHW has a health house in the community assigned to her and a CMW also has CMW health house. There was no protocol for them to coordinate with each other for MNCH care. They have defined their own scope of work according to their own interests.

The LHVs were critical of the negative role of TBAs and LHWs. By reinforcing the traditional practices, these providers were keeping the pregnant women from utilising the appropriate ANC services available at health facilities. LHVs seemed powerless to counter the influence of the community providers and the resultant inefficient use of the health facilities. They had the impression that LHVs and TBAs were discouraging the ANC clients from approaching the health facilities, and luring them to private practitioners with whom they had links. They also thought that LHWs and private practitioners spread misinformation about the work of lady doctors in health facilities. There appeared to be a trust deficit between different providers in the community.

The experiences of women clients, while getting ANC services, were varied. Most clients seemed to be unsatisfied with the received care which may be reflective of the inefficient provision of ANC services. Some specific observations were: The participants knew that ANC services were available at the local BHU; ANC services were used more often in emergencies than for routine care (a reflection of the institutional inefficiency); going to a BHU or an RHC to get care was generally not the preferred option among clients. Such decisions of the clients could be because of the institutional inefficiency. For instance, the institutional inability to build a healthy image of availability of ANC services at the BHU/RHC; a substantial proportion of the participants preferred to travel a to city for availing the ANC services from a private facility; timings observed by the BHU/RHC appeared to be highly inconvenient to the clients; visit to a health outlet for availing ANC services was considered a highly time consuming activity which may be considered an indication of institutional inefficiency; for ANC services majority of participants either named "private hospital" being the most reliable health facility, or the "local Dai" who was relatively easily accessible, economical, and accommodating person; going to the BHU/RHC for availing ANC services lacked assurance in terms of availability as well as the efficacy of services; and there was an impression that availing

the ANC services at the government health facility was relatively expensive (clients usually first tried the local Dai, then the BHU, and finally they ended up in a private facility).

### **6.3 The provision of quality ANC services**

The provision of quality services did not appear to be of high priority on the agenda of managers or service providers at health centres. They claimed that there were no specific statistics on the quality of ANC services. Rather than using WHO standards for quality services, the department used its own standards for ANC services. WHO standards stipulate four visits for ANC services but the management considered this too hard to follow in the Pakistani set-up. They only accounted for the first visit and a revisit for ANC. It was considered nearly impossible to follow the exact protocol due to the distant location of the health centres, limited working hours, shortage of the staff, and issues related to the availability of equipment, supplies and infrastructure. It seemed that the quantity of ANC services was being equated with quality. The quality of the services provided during a visit was not really considered an issue by the provincial health managers.

When the LHV participants in the FGDs were asked about the availability of standard protocols for ANC, there was lack of clarity about the standard protocols. The LHVs had heard about protocols but had never seen or used any. They considered maternal health registers and maternal cards to be the standard protocols and these were named as the sources of necessary guidance for ensuring the quality of ANC services at health facilities. The participants complained about the irregular and insufficient supply of maternal cards.

The issue of standard protocols for provision of quality ANC services also came up in discussion with clients. The clients seemed familiar with the maternal cards and demanded them which supported the impression that this system was in place. The problem of unavailability and poor quality of medicines provided at health facilities was raised by the providers and was one of the reasons of institutional inefficiency.

The clients seemed to be dissatisfied with the ANC services in FGDs. They complained about absenteeism of staff, unfriendly attitude of staff, lack of cleanliness, highly time-consuming visits, not following the proper protocol of ANC services (no case history, no recording of weight, blood pressure, and no proper check-up), unavailability/poor quality of medicines at the facility, unavailability of lab facility, and unavailability of ambulances for referrals.

### **6.4 The current patterns of utilization of first-level ANC services**

There were variations in the utilization of the first-level ANC services provided at the BHU/RHC level. The variations emerged on the basis of clients' experiences at the facility as well as the available options. The options available to ANC clients were: wait-and-see, use of government health facility, use of the services of community providers, use of private health facility, and the use of spiritual healers. The women clients used all of these methods, as became apparent in FGDs.

Detailed explanation of some of these use patterns is given below.

**Wait-and-see:** Using the ANC services was postponed unless the woman felt a problem. The clients who follow this need-based pattern of health seeking behaviour for ANC services are not convinced or motivated by the benefits of ANC services. This was found to be one of the factors that led to general underutilization of ANC services. The other underlying factor may be the accessibility, affordability and previous unsatisfactory experiences in government health facilities. The perceptions of the clients are given in the Box 5.3.

**Use of government health facilities:** Many clients were in favour of utilising government health facilities. Some used them during complicated pregnancies while others routinely visited for ANC check-up and to get TT immunization. The reasons for utilization of government facilities were free-of-cost services and the accessibility of government

**Box 5.3: Perceptions of clients about various kinds of services**

**Wait-and-see**

- *ANC can create apprehension about health. No news is good news. ("ANC kerwao tu banda weham main par jata hai na karao tu din theak guzar jatay hain").*
- *There is no need to go for ANC services. The reality surfaces at the time of delivery*
- *Check-up is only needed in case of a health problem otherwise there is no need for it.*

**Use of government health facility**

- *During my last delivery, the head of the baby was stuck and the delivery became complicated. My family wanted to take me to a big hospital but transport was not available. So I had to stay at the BHU and delivered there.*
- *Private hospital is very far. That is why I always prefer BHU for ANC services.*
- *I always go for ANC at BHU but consult a Dai for my delivery at home.*
- *We have to go to the BHU only for TT vaccination during pregnancy.*

**Use of services of community based providers**

- *Dai is the first preference as she is easily accessible within the community, as well as affordable because she demands a small fee.*
- *In case of emergency we call upon a Dai who gives oil massage on the tummy of the pregnant woman.*
- *During my last pregnancy, pains started in the 4th month. I told my mother-in-law about pains. She could not go to the facility as it was too far. She called my neighbor who gave me oil massage on my tummy but I had a miscarriage.*
- *Dai is a better choice for home delivery if the mother is healthy and young.*
- *LHW provides us medicines at home so there is no need to go anywhere in normal condition.*

**Use of private health facilities**

- *Dai does not know anything about the danger signs of pregnancy. Dai is not a good choice for professional treatment. A hospital should be visited for ANC services.*
- *A private hospital is our preference because of being more accessible and having all the facilities in one place.*
- *We have no need to go to the BHU as the vaccinator comes to our village for TT and EPI vaccination and we get medicines from the LHW whenever required.*
- *BHU is more than 1km away from the locality as compared to the private hospital which is located at a walking distance of 15 minutes.*

**Use of spiritual healers**

- *I had five miscarriages one after the other. I went to a spiritual healer. He gave me a 'taweez', did 'dam darood' and gave me some medicine. On his advice I avoided beef and travelling. He also advised me not to visit any neighborhood where delivery was expected or where death had occurred. Resultantly, I delivered a healthy baby.*
- *I used to do lots of household work so I got sick. A woman gave me a 'taweez' for three months to drink in water. I recovered because of that. She said there was no need to have a TT injection. She also advised me to avoid milk, fish, chicken, egg and tea throughout pregnancy. As a result I delivered a healthy baby through a normal delivery.*
- *I lost my first child during pregnancy. During my next pregnancy I took herbal medicines and wore a 'taweez' around my neck and waist. It has saved my last two pregnancies.*
- *A 'taweez' is good for all health problems especially home delivery.*
- *We get the maulvi (religious leader) to ask forgiveness for us so that we are saved from hospital visits. If we are blessed by Almighty Allah, nothing will go wrong. Check-up cannot do anything (Allah karam ker de to theek ho jata hai sub, check-up se kuch nahi hota.)*

facilities. Some perceptions of clients are given in the Box 5.3.

**Use of community based service providers:** Use of community based service providers was a common practice even among those clients who received routine ANC services from government or private providers. The scope of community based providers' services included visits for massage, home delivery services and postnatal services during puerperal period. The perceptions of clients regarding use of community based providers are given in Box 5.3.

**Use of private health facilities:** Some of the clients preferred using private health facilities and cited bad experiences in government and local facilities as the cause. Some of the clients were convinced that care at government facilities did not cost less than private facilities since they had to pay for medicine and tests themselves even in government centres.

**Use of spiritual healers:** An appreciable majority of clients had firm faith in spiritual healers ('Peers' and 'Maulvis') and used their services during pregnancy. Their services were usually used to avoid abortions, congenital defects, stillbirths and for birth of male babies. Some views of clients regarding the use of spiritual healers are given in Box 5.3.

## 6.5 Patterns of decision making and gender empowerment

The patterns of use of ANC services are profoundly influenced by the patterns of decision making in families. By and large, the decision making process is reflective of the power relations in the family. In the patriarchal family system of Pakistan, it is usually a male who makes these decisions. However, the mother-in-law ((mother of the husband)) alone or in consultation with her son appeared to be the most influential in decision making for ANC and delivery issues. The mothers-in-law were not highly influential in decisions about the first pregnancy since in the first pregnancy the woman was looked after by her parents' family. However, in this study, the discussions about decision making for the use of ANC services did not take into account the order of the pregnancy.

### Box 5.4: Views of the clients about decision making

- *Our mother-in-law and father-in-law have the power of decision making regarding antenatal visits and delivery of the baby. The Mother-in-law also decides who will accompany the pregnant woman for her antenatal check-ups and delivery.*
- *My husband does not allow me to have antenatal check-ups or visit any government or private health facility. I always consult a Dai for problems and ultimately deliver at home.*
- *My husband is going to pay for my travel and check-up so he is the right person to decide where my check-up should be done?*
- *My husband asked me to visit a doctor for an antenatal check-up in the fourth month of pregnancy, so I did.*
- *I had labour pains a few days before the date of delivery. A Dai visited me every day and told me that my baby was weak but my mother-in-law and my husband did not take me to the hospital. I spent three days in labour pains and eventually delivered the baby at home.*
- *My sister-in-law calls a Dai at home in case I need health care. For a visit to a clinic she accompanies me.*
- *We can decide ourselves about anything relating to our pregnancy. (It was a rare statement by a few persons).*

The mother-in-law was the most frequently mentioned person who decided when and where to seek ANC services. There were many other patterns of decision making as reflected in the perceptions of participants summarised in Box 5.4.

A number of patterns of decision making for seeking ANC services were observed but the dominant role appeared to be that of the mother-in-law. The order of decision making in terms of the most influential family member in the Punjabi culture is as follows:

- The mother-in-law was the most frequently mentioned person who made decisions regarding ANC services. She also decided who should accompany the pregnant woman to the health facility.
- The husband appeared to be the second most frequently mentioned person making decisions about ANC services; in many cases he did not allow the woman to avail relevant services.
- In a few cases women themselves claimed to have the decision making power about the utilization of ANC services.

## **6.6 MDGs and ANC services – Policy issues**

The policy issues in achieving MDGs 4 and 5 through improved ANC services were explored through in-depth interviews with provincial and district health managers, but opinions about policies regarding ANC services were also be taken from FGDs with providers and clients. Policies aimed at achieving The MDGs are being implemented predominantly through vertical programmes and to some extent through strengthening of integrated primary health care services. The vertical programmes addressing the MDGs in Punjab are Punjab Millennium Development Goals Programme (PMDGP), Maternal, Newborn and Child Health (MNCH) Programme, LHW programme, EPI and Nutrition programmes. Routine integrated services are enhanced by filling vacancies for MNCH staff at PHC level through incentivised salaries and other amenities. Outsourcing of BHU facilities to PRSP was also one of the interventions relevant to the achievement of the MDGs and improvement in coverage and quality of ANC services.

### **6.6.1 Strategic and operational planning for ANC services**

The quantitative indicators for coverage of ANC services were available at provincial level and ANC-1 enrollment was the main indicator. No statistics or indicators for quality of ANC services were mentioned by the provincial and district health managers. Some of the district managers were ignorant about ANC targets. While targets regarding ANC services were declared by vertical programmes, district-specific targets were not available from any district. The district level managers said that they were following the federal and provincial targets for ANC coverage.

There was no policy for mid-year or end-year evaluation of the ANC targets at district or provincial level, MIS reports were being used for this purpose. MIS Punjab is still in a transitional phase shifting from HMIS to DHIS, the tools being used are newly developed and the first annual report is under process. Information regarding ANC services still needs to be incorporated in this system as pointed out by ANC health care providers in FGDs.

### **6.6.2 Supervision policies**

Supervision is generally programme-specific e.g. Lady Health Supervisors (LHSs) supervise the LHW programme, EPI programme has its specific supervision, and MNCH programme has its own supervision and monitoring mechanism for CMWs. The district health system is newly devolved and the linkages between programme-specific supervision and implementation of the policies through district health managers are weak. These dichotomies were very prominent in supervision of LHWs by LHSs, CMWs by MNCH programme supervisors and LHV by the district health managers. Also, community level ANC providers sometimes guide the clients according to their own personal interests rather than working synchronously as part of one system to improve ANC services at health facilities.

Such parallel implementation and monitoring policies of ANC services dilutes the impact of these programmes in improving the coverage and quality of ANC services. As a solution, one provincial health manager suggested collective monitoring of all ANC efforts under a common supervision at district level.

### 6.6.3 Human resource policies

There were some key interventions under the vertical programmes to increase the availability of MNCH related staff in health facilities and address the HR issue. For instance, MNCH programme generated special posts for WMOs and LHVs at RHC level in addition to already existing posts in these facilities by the Punjab Health Department. WMOs are offered incentivised pay package of Rs. 30,000 and LHVs Rs. 14,000 per month. In spite of repeated advertisements and walk-in interviews more than 50% (114/293) posts of WMOs and LHVs are still vacant because of lack of security and other basic facilities for staff e.g. educational facilities for their children.

### 6.6.4 Service organisation policies

The deficiencies in service organisation regarding issues like maintenance of buildings, equipment, supplies, medicines and diagnostic services were discussed in FGDs and in-depth interviews. In devolved district health system, the district level policies regarding procurement and disbursement of logistics are still being developed. Various districts are

#### Box 5.5: Views of the district health managers

- *I do not know about district targets or ANC policy; our policies are the same as national/provincial policy.*
- *Planning is mainly done on political basis without considering the needs and requirements.*
- *We do not have the authority to make any changes in the targets. We are not allowed to take any initiative.*
- *Level of target achievement is 40% because people have no trust in government facilities. I do not have any document or evaluation report.*
- *The quality is not up to the mark.*
- *Monitoring is through monthly meetings and field visits, but no consolidated district report is available.*
- *Most of the buildings at the BHU level are not maintained especially residential buildings.*
- *The purchase and distribution process is difficult in a centralised system.*
- *BHUs are located away from town near the grave yard. This is a big issue in original infrastructure of PHC services.*
- *There are security problems. They have asked the local people to provide guards on their own for some BHUs. Help from local people at distant BHUs, employing local staff, providing transport facilities and functional residence could be a solution to the problem.*
- *Domiciliary providers negatively influence the ANC coverage and utilization. The reasons are 24/7 availability of their services which includes massage, help in household work, delivery and postpartum home services. But their services are standard ANC services.*
- *Raising awareness about ANC at community level is very important as beliefs and customs still influence ANC utilisation and institutional services.*
- *Only 25-30% of targets are achieved because the community mostly trusts TBAs (local Dais).*

practicing their own service organisation policies that have their own merits and demerits.

District officials holding the budgets are Drawing and Disbursing Officers (DDOs). They can procure the supplies with the budget at their disposal but they have to follow the Punjab Procurement Regulatory Authority (PPRA) guidelines. They can procure the supplies through District Procurement Committees, do their own rate contracts at district level, or follow the provincial approved contracts. District autonomy could play a supportive role in better service organisation in maintenance of buildings, equipment, supplies and logistics.

Procurement planning is the main issue in this regard but properly trained staff is not available at district level. The policy of getting large amounts of supplies at one time should be discouraged and periodic procurement should be adopted to prevent waste of resources. There should also be only minimum storage points within the supply chain.

#### **6.6.5 Policies related to clients' awareness**

Community based providers and spiritual healers are the most commonly preferred health care providers by pregnant women even though their services are not qualified as ANC. This indicates that there is a critical lack of awareness about ANC services at client level. The management was of the view that CMWs, LHWs and LHVs were responsible for the creation of community awareness. Through MNCH programme, Social Organisers and Health Education Officers have also been creating awareness through outreach teams of PHC health facilities. Nevertheless, the achievements were not considered satisfactory by the managers.

The poor impact of efforts to raise awareness about ANC among clients seems to be due to a lack of responsibility among various stakeholders. There should be a clear policy regarding the role of different stakeholders (health care providers and NGOs/CBOs) under coordination of district health managers. A common mechanism should be devised for monitoring and evaluation of all the stakeholders so that responsibility can be affixed and causes of any problems addressed.



## SECTION VII

### DISCUSSION

Antenatal care is a very important component of maternal health services. It gives women and their families the opportunity to learn about the risks associated with pregnancy and guides their health seeking practices and decision making thereby preventing maternal and infant morbidity and mortality. Counselling during ANC provides a critical opportunity for women to learn when to seek help and where to give birth. It also helps prepare women for the mental and physical challenges they may face during pregnancy and childbirth.

This study focused on assessment of quality and coverage of ANC services being provided at PHC health facilities serving the rural population of Punjab. The unique aspect of this study was the combined quantitative and qualitative assessment approach that broadened the scope of the findings and provided opportunity to understand reasons of gaps in quality and coverage of ANC services.

The institutional capacities of management, facility resources, quality of ANC services and facility performance were evaluated through quantitative approach in terms of measureable indicators, and gaps were identified.

In qualitative assessment, triangular interactions of health system stakeholders, clients, providers and health managers were studied to explore the factors that influence these interactions.

This discussion lays out the overall conclusion from both qualitative and quantitative findings and gives detailed analysis of specific issues from the findings. The policy, planning and management issues are discussed first and service-related issues later in the section.

#### 7.1 Policy and planning

In-depth interviews of provincial and district health managers revealed that the policy and planning for achievement of MDGs 4 and 5 is being done predominantly through vertical programmes and to some extent through strengthening of integrated Primary Health Care services.

The vertical programmes addressing the MDGs are Punjab Millennium Development Goals Programme (PMDGP), Maternal, Newborn and Child Health (MNCH) Programme, LHW programme, and EPI and Nutrition programmes.

Routine integrated services are enhanced by filling of vacancies of MNCH staff at PHC level through incentivised salaries and other amenities. Outsourcing of BHU facilities to PRSP is also one of the interventions aimed at accelerating progress towards achieving targets of the MDGs and improvement in coverage and quality of ANC services.

The vertical programmes are not being accommodated smoothly within the devolved district health system because they were created within the centralised management system at federal and provincial levels and the dichotomies exist up to the grass-roots level. For instance the qualitative findings revealed that the LHWs report to the Lady Health Supervisors (LHS) and CMWs report to the district coordinator MNCH programme while the district health managers are the ultimate stakeholders of performance and quality of ANC services. These parallel systems lead to duplication of resources and responsibility among vertical programmes and district health management.

The strategic and operational planning for ANC services is not being properly addressed at provincial or district level. Provincial and district health managers did not mention any statistics and indicators for quality of ANC services. The targets regarding ANC services were declared by vertical programmes but the district-specific targets were not available from any district. The district level managers said that they were following the federal and provincial targets for ANC coverage. Some of the district managers were ignorant about the ANC targets. There was no policy for mid-year or end-year evaluation of the ANC targets at district or provincial level; they were only relied on MIS reports. MIS of Punjab is still in a transitional phase shifting from HMIS to DHIS. Its tools are newly developed and the first annual report is under process.

Therefore the policies regarding implementation of The MDGs must be revised and there must be more participation and involvement of the district and provincial health stakeholder to improve the ownership of these programmes.

## **7.2 Management**

ANC services and relevant staff are available in almost 90% health facilities (RHC/BHUs) in Punjab, but their services are only available during the official working hours of 8am to 2pm. The qualitative findings revealed that the facility timings were very limited and not convenient for the clients. During the earlier part of the day the clients were busy in housework and could usually only avail the services from 11am to 2pm after which the facilities were closed.

Other factors that compromised the service availability and quality were lack of staff regularity, non-availability of medicines, supplies, diagnostic services and attitude of the facility staff. Community based providers were available 24/7 and were much more accessible for the clients than RHCs/BHUs, but they were unable to provide full package of ANC services. ANC services need diagnostic tests that are essential for the early diagnosis of high risk pregnancies but they are not possible at home by the community based care providers.

Location of health facilities plays a major role in utilization of services. Around one fourth of the first-level care facilities in Punjab cater to villages which are within 5km distance or within an hour's distance. Therefore, almost three fourths of catchment population had difficulty accessing the health facility. The situation was comparatively better at RHC level than BHUs. Provincial health managers and health facility in-charges also highlighted in qualitative assessment that BHUs were generally located away from the community dwellings which made them inaccessible to prospective clients. The inaccessibility of PHC health infrastructure is an inherent issue as the facilities were constructed on distantly located lands donated by the local community leaders. The distant location of the health facilities was repeatedly pointed out by clients during qualitative assessment and the problem was compounded by non-availability and expense of transport to reach health facilities.

Apart from the geographical inaccessibility of facilities, a number of socio-cultural factors hindered the utilization of ANC services. The major social issue revealed by qualitative assessment was the lack of decision making power of clients for utilization of ANC. The mother-in-law was the key decision maker of ANC services utilization either

alone or in consultation with her son. Other factors contributing to underutilization of ANC services were lack of motivation of clients, the attitude of facility staff and lack of transport.

The accessibility issues must be addressed at management level to plan the facilities within community dwellings and social inaccessibility must be addressed through community mobilization and gender empowerment by involving NGOs at grass-root level.

Supervision is an area that requires special attention for providing support at workplace as well as to monitor the progress of health facilities. At the moment, slightly more than 50% of health facilities are having 'good' supervisory support from district health managers. The situation is somewhat better at RHC level which may be due to easy accessibility of facility for supervisory staff because of their location near main roads.

Qualitative assessment further stressed the importance of supervision as provincial managers were strongly in favour of strengthening the system. They had an outlined schedule of supervisory visits to the BHUs and RHCs along with a prescribed check list for supervision.

Generally, there was a good working relationship between facility staff. Usually the seniors provided guidance and facilitation but LHVs demonstrated a general feeling of lack of patronization and ownership by their supervisory staff. District health managers pointed out that the lack of transport and fuel sanctions for supervisory visits made it hard for them to fulfill their supervisory responsibilities.

Qualitative findings further depicted that the supervision was generally programme-specific and in a devolved district health system the linkages between programme-specific supervision and district health system were weak. The dichotomies were very prominent in supervision of LHWs by LHS, CMWs by MNCH programme supervisors and LHVs by the district health managers. Parallel implementation and monitoring policies in ANC provision diluted the impact of different efforts to improve the coverage and quality of ANC services. One of the senior provincial health managers suggested that collective monitoring of all efforts under common supervision at district level can improve the quality of ANC services.

Overall performance in record keeping of ANC cases was better at BHUs than RHCs but it is not done on a regular basis. To improve accuracy in this study, the data was validated by comparing ANC register entries with monthly reports which showed that there were 11% data errors. This can be improved by providing supportive supervision to the concerned facility staff.

Although service delivery protocols should be available to all health care providers, only about three fourths of facilities had displayed these protocols for providers. The utilization of service delivery protocols was quite poor as LHVs indicated their complete ignorance about protocols for ANC. During the observation of ANC services provision process, it was found that most of the recommended steps were not being followed for assessment, treatment and counselling of clients. The overall quality of assessment and counseling, based on protocols, was poor during the client-provider interactions.

Capacity building of health care providers is necessary to maintain quality of services. LHVs were aware of the importance of in-service trainings to improve their skills and better provision of ANC services. It was quite encouraging that around three fourths of respondents were trained in one of the asked ANC-related topics during the last three years. These topics included nutritional counselling, vaccination, obstetric referral and infection control measures. Such trainings were received mostly by BHU staff probably because of more opportunities for training since BHUs had lesser staff than RHCs. As far as the quality and content of these trainings was concerned, qualitative assessment revealed that majority of WMOs felt that the trainings were insufficient both for ANC services and ultrasonography. However, despite the trainings, the services provided at PHC facilities were often poor in quality. It means that either the quality and content of trainings must be re-evaluated or the staff should be motivated to provide services according to the protocols. The training curriculum must be based on the standard service delivery protocols devised by Punjab Health Department.

### **7.3 Facility resources**

The overall situation of infrastructure (buildings, cleanliness, electricity, improved water source, functional latrine for clients, sitting area, communication equipment, emergency transport, and privacy for client examination) was not satisfactory as only around one fourth of the facilities were categorised as having good infrastructure. Almost all RHCs and less than one fourth of BHUs were found to be in good category for quality of infrastructure. Major areas that need to be addressed include cleanliness and provision of separate toilets for the female clients. This deficiency in infrastructure was also highlighted by the district health managers during qualitative interviews and the inadequacy of the building infrastructure particularly at the BHU level was mentioned.

The availability of water supply was not a major issue at health facilities. Water supply was through either motorised or hand pumps in most of facilities but piped water was available in very few facilities. The deficiencies in infrastructure (buildings) and basic amenities were pointed out by all the respondents during qualitative assessment. The clients, providers and health managers were of the view that poor conditions of facility buildings especially at BHU level was one of the factors that lead to under-utilization of ANC services.

Regarding ANC related resources, overall condition of essential equipment, supplies and medicines for ANC was extremely compromised in health facilities. Adequate equipment/supplies/medicines were available in less than half of the surveyed facilities with somewhat better situation at RHC level. In qualitative assessment, however, the district managers gave the impression that supplies and equipment were sufficient at the BHU level. This was also confirmed by MOs in their FGDs. According to them, the reason for under-utilization of these resources was unethical referral of ANC cases to private practitioners by LHVs and TBAs to gain financial benefits. On the other hand, LHWs complained of shortage of medicines, sub-standard medicines, and lack of necessary equipment such as stethoscopes and BP apparatus. Infection control

practices need to be strengthened at both levels but more at BHUs as only half of the BHUs had enough supplies and equipment for infection control.

Laboratory services for ANC-related basic tests were available at RHC level but the quality of these tests was inadequate as almost two thirds of lab services were rated poor. Availability of functional lab equipment required attention regarding haemoglobin meter, microscope, sterilizer and sharp cutters. Although most of the supplies for lab tests were deficient, Benedict's Solution and Urine strips for albumin were very scarce. As far as individual ANC related tests were concerned, almost all RHCs conducted these tests. At BHU level, however blood sugar testing was available in almost half of the facilities but very few BHUs were conducting other ANC tests.

The clients strongly expressed the deficiency of equipment and diagnostic services for ANC in FGDs. One of the reasons for visiting private practitioners was non-availability of medicines and diagnostic services at government facilities. One of the interesting findings in this study was the relationship of facility performance for ANC with facility resources. The facility performance for ANC was associated with availability of facility resource items. Although the facility performance was significantly associated with individual set of resources e.g. infrastructure, equipment, drugs and supplies; this relationship was particularly strong when the cumulative effect of facility resources (infrastructure + equipment + drugs + supplies) was studied. So the availability of resources attracted the ANC clients and the facility performance was increased. Thus we can conclude that strengthening of facility resources could be one of the major interventions that can improve coverage of ANC services in Punjab.

Multiple reasons were expressed in FGDs and in-depth interviews for deficiencies in health services management issues such as maintenance of buildings, equipment, supplies, medicines and diagnostic services. In devolved district health system, the district level policy regarding procurement and disbursement of logistics are still being developed. Various districts are practicing their own service organisation policies that have their own merits and demerits. District autonomy encourages better service management for maintenance of buildings, equipment, supplies and logistics. District officials holding the budgets are Drawing and Disbursing Officers (DDOs). They can procure supplies from the budget at their disposal but they have to follow Punjab Procurement Regulatory Authority (PPRA) guidelines. They can procure the supplies through District Procurement Committees, do their own rate contracts at district level, or follow the provincial approved contracts.

Ambulance service has been provided to only 11% of RHCs by the government. This shortage of ambulances was highlighted by provincial and district health managers, facility staff and clients during qualitative assessment. Provincial managers were of the opinion that it adversely affects the ANC coverage and provision of quality services. The efficiency of the referral system is also compromised by this deficiency because of the critical importance of transport facilities to reach the referred health outlet. Apart from clients, staff also experienced transport problems. LHV's experienced transport problems for reaching the place of work, leaving the place of work at odd hours, and going for home visits. The government is trying to resolve the issue by managing transport

services through Citizen Community Boards (CCBs), however, these efforts are not sufficient. The transport issues were exacerbated by the distantly located health facilities as already mentioned in the earlier sections of the discussion. The transport issues must be resolved with multiple interventions such as provision of ambulances at BHUs, transport services through community mobilization, public-private partnerships like CCBs, and accessible location of newly added health facilities.

Staff availability was an important issue in provision of effective health care services. Our survey revealed that this is more serious for ANC related paramedical female staff (FMTs, trained/untrained TBAs) rather than MO/WMO and vaccinators. In the qualitative assessment, the staff shortage was pointed out specifically at centres which were upgraded recently for around-the-clock services. The district health managers are conscious of the shortage of health professionals in BHUs/RHCs but certain factors hinder progress. Key interventions under vertical programmes, as depicted through qualitative assessment, were to increase the availability of MNCH related staff in health facilities. To address the HR issue the MNCH programme generated special posts for WMOs and LHVs at RHC level in addition to already existing posts in these facilities by Punjab Health Department. In spite of repeated advertisements and walk in interviews, more than 50% posts of WMOs and LHVs are still lying vacant. The reasons include the unattractive environment of these facilities, which included the isolated location of the facility, lack of transport facilities, lack of educational opportunities for the children of the staff, poor living arrangements, security concerns, lack of an enabling environment for female staff, and the lack of incentives.

#### **7.4 Referral system**

Complicated ANC cases are referred to nearby health facilities by field health workers including LHWs, CMWs and TBAs. The figures for such referrals were quite encouraging as more than three fourth of facilities received referred cases from field staff although the range of referred cases varied district-wise and from facility to facility. Qualitative analysis of provincial and district stakeholders' responses also highlighted the vital role of Dais, LHWs, and CMWs in improving ANC coverage. The facility in-charges were of the view that field staff including CMW, TBAs and LHWs should be offered incentives for the referrals. The LHVs, however, rated the referral system as very poor and said that the non-welcoming attitude of facility staff contributed to this impression. There is a need to improve coordination between field staff and facility staff. The improved awareness along with better diagnostic services at RHC/BHU can help in motivating women to use these facilities. The provision of referral slips at all levels and regular recording of referred cases can also facilitate in improving the system.

#### **7.5 Quality of ANC services**

Quality assurance of health services is essential to get desired outputs and ultimately create an impact on health status of mothers and newborns. The quality of the ANC services was evaluated both by quantitative and qualitative assessment approaches. In

quantitative assessment, the quality of the services was evaluated by observing the steps for assessment, treatment and counselling during service provision. The quality of the services by most of the providers was poor regarding assessment and counselling.

The quality of services was also assessed qualitatively through the perceptions of clients, providers and health managers. The qualitative findings revealed similar issues as those in quantitative assessment. The clients talked about the compromised quality in terms of resources, equipment, supplies, diagnostics and the staff attitude towards clients. The providers also perceived the compromised quality and they also blamed this on poor facility resources and non-conducive working environment. The provincial health managers said that the standard of four ANC visits for quality of ANC services was nearly impossible to meet under current conditions.

The clients' perspective of quality of ANC services was explored by asking for their perceptions about quality of services and their satisfaction with them. Around half of the respondents were satisfied with ANC services. It was also interesting to note that there was a statistically significant association between quality of assessment, treatment and counselling, and patient satisfaction. There should be more emphasis on respectful behaviour and sufficient examination time for clients.

Qualitative analysis of the system by LHVs highlighted the increased workload as the major reason of inability to meet the needs of a client for ANC services. Clients' responses in FGDs also reflected their dissatisfaction with the quality of ANC services. All the above findings are suggestive that the quality of ANC services at PHC level is highly compromised due to a number of factors that include managerial issues, facility resources, staff training, lack of motivation and uncomfortable working environment at the facilities.

## **7.6 Facility performance**

Facility performance was estimated by ANC-1 coverage as percentage of expected pregnancies. Overall facility performance was at about 52% in the sampled health facilities. This coverage is very closer to that (57%) claimed by the HMIS cell Punjab in DHIS report of 2010 and MICS 2007-2008, that is about (53%). This difference can be explained on the basis 11% data errors depicted during data validation of health facilities. There is inequity in provision of ANC services to rural population as depicted by some other studies e.g. 50% of rural women receive ANC check-up as compared to 71% of urban women. In Punjab, 25% of women in rural and urban areas consulted health providers at a public sector health care facility (Federal Bureau of Statistics 2007: 48).

The 50% ANC-1 registration of clients does not depict quality of ANC services, just the registration figures. Also, while WHO recommends four ANC visits for every pregnant woman the facility tool contains only two columns one for the first visit and the other for revisits. Since all revisits are recorded in the same column, it is impossible to know how many of the registered cases completed four ANC visits. On the other hand, revisit data

indicates that about one third of the clients dropped out after the first visit, which means that a majority of the clients did not even complete two visits.

Although generally there were dropouts in revisits, in district Rawalpindi there was 29% increase in revisits after the first visit. The reason for this increase in revisits was the availability of WMOs, free facility of ultrasound, accessible locations, availability of resources and awareness of the clients in these areas. Facility ranking on the basis of ANC coverage as good, average and poor revealed that 69% to 82% of the facilities were in poor or average ranking showing poor quantitative performance of the facilities especially BHUs.

The interesting finding regarding facility performance was the positive linear correlation of facility performance with availability of the resource items. A resources-ANC curve revealed that there was a threshold at about 80% of the resource items where the curve abruptly rose to give performance of up to 97% coverage (Correlation coefficient  $R^2=0.9244$ ). The availability of resources was associated with better facility performance and quality of services. A better quality of services, in turn, was associated more client satisfaction.

Besides this, qualitative analysis revealed that inadequate working hours of health facilities also contribute to under utilization of ANC services. Due to the timings of the BHU/RHC and the unavailability of staff after routine working hours, the client had no option but to visit a private hospital or consult a Dai for her delivery. Besides this, other reasons for underutilization include; i) home based health care providers not working properly; ii) deficient liaison with local communities; iii) low level of awareness about the use of ANC services at the community level; and iv) inadequate transport facility for patients.

Some issues revolve around lack of awareness among women and their family members, long distances from the health facility, unavailability and poor quality of medicines, unavailability of necessary tests, socio-cultural practices, shyness, household workload, and availability of alternatives such as spiritual healers and quacks.



## SECTION VIII

### Conclusion and Recommendations

#### Conclusion:

The study revealed that both coverage and quality of the ANC services in Punjab are extremely inadequate. For coverage, only about half of the expected pregnancies in the catchment areas of PHC health facilities are enrolled for ANC and out of those about 33% never return for follow-up visits.

The quality of ANC is extremely compromised as perceived by clients and observed during the study. Service quality in terms of clients' assessment and treatment and counselling by the providers are poor or average in majority of the cases. More than 50% of the clients are not satisfied with the ANC services they receive. Multiple factors responsible for this low coverage and quality of ANC services as found by this study are summarised below.

1. The availability and accessibility of health services is influenced by a number of managerial and social factors. These include:
  - a. Distantly located health facilities out of the community dwellings
  - b. Non-availability and non-affordability of transport (ambulance) services
  - c. Insufficient and inconvenient working hours of PHC health facilities incompatible with cultural traditions and norms of clients
  - d. Clients are not self empowered to avail the ANC services as mothers-in-law appear to be the most influential person in decision making for utilization of ANC services.
  - e. Non-availability and attitude of facility staff
  - f. Highly influential community based services providers including Dais, LHWs, and CMWs are available 24/7 to the clients. This may be one of the factors negatively influencing client referrals to PHC facilities.
2. Deficiencies in health facility management are present in all areas e.g. maintenance of buildings, equipment, supplies, medicines and human resources. One of the reasons for inefficient management is unclear policies regarding procurement and assessment of logistics in devolved district health system.
3. Quality of laboratory services is very poor at PHC level due to non-functional equipment or shortage of supplies. The essential lab tests required in the package of ANC services are not being conducted at these facilities.
4. A schedule of supervisory visits to the BHUs/RHCs and a supervisory check list is available at provincial level. There are a variety of opinions about the quality of supervision from punitive to supportive. Only half of the supervisors document their comments on the supervisory visit books. The supportive supervision in its true spirit is not being followed in most of the districts.
5. The strategic and operational planning e.g. provincial and district target setting and its monitoring are weak areas on both provincial and district level. The indicators of quality of ANC services are not taken into account for routine MIS. The policy regarding mid-year and end-year evaluation of ANC targets are not clearly spelled out at either district or provincial level.

6. MDGs 4&5 related ANC services are predominantly implemented through special (vertical) programmes with minor strengthening of routine integrated health services in the devolved district health system. The district health managers cannot easily accommodate the special programmes in addition to their own responsibilities of managing the integrated health services. The parallel efforts through various special programmes dilute the impact of interventions and lead to waste of resources.

## Recommendations

1. The provincial and district health managers/policy makers should address the ANC issues by multiple interventions targeting to improve both coverage and quality of the ANC services being provided at PHC health facilities.
2. The accessibility and availability must be addressed through:
  - a. High priority should be given to ensure accessible locations for new health facilities in the system and if the cost of repairs on a facility is almost as much as constructing a new building, the facility should be relocated and built in a more geographically accessible location. The option of small mobile health clinics should also be considered for distant areas.
  - b. Facility working hours must be extended and adjusted according to the convenience of clients in PHC health facilities.
  - c. Client awareness and self empowerment should be improved through involvement of local NGOs and social workers.
  - d. The providers' trainings, motivation and frequent monitoring are required to change their behaviour to encourage the clients to utilise services
  - e. For ANC client referral, the community based service providers must be targeted for advocacy and motivation for referring the clients to the public health facilities for ANC services.
3. The deficiencies in facility resources must be addressed by both provincial and district level health managers. Technical assistance and clear guidelines are required for supplies, drugs and equipment at district and facility level. Delegation of more financial powers for supplementation, re-appropriation and readjustment of funds is required for the management at district level.
4. The laboratory services should be strengthened and essential package of ANC tests must be ensured up to BHU level.
5. Supportive supervision must be implemented in its true spirit and regular feedback must be given in the form of comments in the facility visit book. The supervisors must be trained in quality evaluation.
6. Health care providers should be trained to improve their technical skills for assessment, treatment and counselling of clients. Providers should get motivation and training to encourage them to follow the standard protocols for provision of quality ANC services.
7. District capacity building should be done for local target setting and to perform mid-year or end-year evaluations. A separate budget must be allocated for capacity building and end-year evaluation.
8. The strengthening of integrated services at district level could be more feasible intervention to improve ANC than vertical programmes.

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