

**Government run family planning services and
incidence of RTIs in Pakistan: A case study**

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by
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Abstract

Government of Pakistan designed a very ambitious package in 2000 that emphasised the shift in focus after the ICPD from fertility control towards a more comprehensive approach, integrating reproductive health with family planning, and recognised the need to place human beings, rather than human numbers, at the centre of all population policies and activities. This package however remains to be implemented in practice, as findings of this paper, dealing mainly with presence of RTIs, including STIs, also shows. Women accessing government owned family welfare services for contraception, antenatal care or post-natal care had higher incidence rates of RTIs. Lack of pre-screening for infections and of contraceptive choices offered, accompanied by lack of imparting proper knowledge to users and poor hygiene are among the main sources of these infections at these centres. Integration, improvement and reorientation of reproductive health services in the real sense is the need of the hour.

I. Introduction

Pakistan's family planning programme "has a long, expensive and generally unsuccessful history", concluded Robinson in late 1980s (1987 p: 107), and things have not changed much even in the new millennium. Starting in 1965, the country was first in the South Asian region to launch a national family planning programme but now lags behind its neighbours in all objectives that were part of the country's programme. Despite the high level of knowledge of modern contraceptives (95 per cent), not more than 20 per cent of women in reproductive ages currently use any modern contraceptive (PRHFPS 2001) and the fertility rate remains at 4.1 children per woman (FBS 2002). On the contrary, over 40 per cent of women in India and Bangladesh use modern contraceptives and have on average 3 children per woman (UNDP 2004). In this backdrop, Pakistan's population could touch 200 million by year 2020, from its 151 million in 2004, which in itself is an exponential rise in the 32.5 million population at the time of independence in 1947 (MoPW 2004).

With the exception of Sub-Saharan Africa, interest in reproductive tract infections in developing countries has developed only in the last few years and efforts are now being made to establish programmes to deal with reproductive tract infections (RTIs), including sexually transmitted infections (STIs). Reproductive health as such and women's reproductive health in particular have been elevated in the agenda of governments throughout the world partly through the International Conference on Population and Development (ICPD) in Cairo, 1994, while association of RTIs with HIV/AIDS has given a further impetus to such attempts. The key components of reproductive health, as envisaged by the ICPD 1994 and then later by the Fourth World Conference on Women in Beijing (1995), and the +5 conferences held in 1999 and 2000, include maternal mortality and morbidity, perinatal mortality and morbidity, abortion and post-abortion care, family planning, reproductive tract infections including HIV/AIDS, infertility, adolescent reproductive health, female genital mutilation and gender-based violence. If we look at the information available on all these facets of reproductive health of Pakistani men and women it does not

portray a satisfactory picture. The population growth rate still remains around 2%, the maternal mortality ratio is officially stated to be 340 per 100,000 live births (GOP 2004) and unofficially thought to be much higher, the infant mortality rate still hovers around 77 per 1000 live births (GOP 2004), attendance for antenatal care is 51% and the unmet contraceptive need of 33% (NIPS 2001) are just a few glimpses of this picture. There are certain topics for which no national level surveys have ever been conducted, including incidence and prevalence of RTIs.

The relation between RTIs and contraceptive technologies is of great implications. It is a two-way relation as the symptoms of infection may be attributed to the contraceptive method, affecting its usage, and the whole attitude towards contraception. Secondly, certain contraceptive methods may increase the risk for infection or aggravate the infection already present. As stated earlier, modern method contraception prevalence rate in Pakistan remains a low 20% (NIPS 2001). Fear of having side effects is a major hurdle to the use of modern contraceptives in Pakistan. Many women discontinue their use after having suffered an infection or hearing about a friend or relative with an infection. The PFFPS 1996-97, found that 5.5% of the urban women had never used contraceptives because of fear of symptoms associated with such infections. Another study done in two villages of the Punjab province found that for 41.7% of past users the reason for discontinuation was getting infections, while 12.8% who never used it had similar fears (Nayab 1998).

The Rawalpindi Reproductive Tract Infection Study 2001-2002 (RRTIS 2001-2002), on which the present paper is based, found out contraceptive use, especially the use of intra uterine device (IUD) and tubectomy, to be significantly associated with the presence of reproductive tract infections¹(Nayab 2004). Further analysis of the data showed government run family planning services to be the primary source of providing these two methods of contraception, which is IUD and tubectomy, arising the curiosity to investigate the probable relation between government provided family planning services and RTIs.

The present study, thus, aims to look into presence of RTIs, including STIs, among women attending government run hospitals, mother and child centres (MCHs) and Family Welfare Centres (FWCs)- a change in name in the post-ICPD period from "Family Planning Centres". Services offered by these outlets include, antenatal and postnatal care, contraceptive advice and supply, and child health. Similarly, RTIs having consequences ranging from less serious to fatal outcomes for the materno-foetal health, such as, premature delivery, low birth weight, still births, congenital syphilis, neo-natal conjunctivitis, neurological and cardiovascular diseases, PID and infertility, are intertwined with safe motherhood, family planning and child survival. Thus, the functions of government run family planning services coincide with the consequences a woman might suffer in case of having a RTI.

Aseptic condition during a surgical procedure or a medical intervention can also be a source of iatrogenic transmission of RTIs. Given the often unhygienic conditions that prevail at health delivery outlets in the country, including the government run services, there is a need to look into the presence of infections among women who

¹ See Annex-I for a logistic regression models for the factors affecting the likelihood of having an RTI etiologically among women in the study. It shows having tubectomy and use of IUD to be strongly associated with having an RTI compared to those not using any contraceptive.

have gone through any such procedure. All this depends not only on the infrastructural facilities available at the service outlet but also on the knowledge and ability of health professionals.

In the light of discussion above, the present paper has the following objectives:

1. To look into the presence or otherwise of RTIs among women using different contraceptive methods by source of obtaining the method.
2. To probe the presence of RTIs among women who have gone through any surgical procedure on a reproductive organ by the place of performing the surgery.
3. To investigate the presence of RTIs among women receiving antenatal care by place of getting the care.
4. Knowledge level and medical practices of health professionals, at different health delivery outlets, regarding factors associated with reproductive tract infections.

The present paper is divided into five sections. After this section, which is section one, that gives the introduction to the topic, section two deals with a brief description of the government's reproductive health policies and family planning services. Section three gives account of the data sources used in this paper, while section four presents the results along with discussion on the findings. The final section presents conclusions of this study and gives certain recommendation to alleviate the health, especially the reproductive health of women in the country.

II. Reproductive Health Policy and Delivery Services

The country's reproductive health policy emphasises the shift in focus after the ICPD from fertility control towards a more comprehensive and intersectoral approach integrating reproductive health with family planning and addressing a wider range of concerns especially economic status, education, health and gender equality and equity (GOP 2000). It also recognises the need to place human beings, rather than human numbers, at the centre of all population policies and activities. A very ambitious Reproductive Health Services Package was designed in 2000, entailing the following measures:

- Comprehensive family planning services for females and males
- Maternal health care including safe motherhood, and pre and post abortion care for complications
- Infant Health Care
- Management of reproductive health related problems in adolescents
- Prevention and management of RTIs/STDs and HIV/AIDS
- Management of infertility
- Detection of breast and cervical cancer
- Management of reproductive health issues of men

(GOP 2000)

This Package however, though approved, remains to be implemented in practice even in year 2005. The Government admits its lack of knowledge regarding the magnitude of RTI prevalence, and the problems related to them (GOP 2001), but the practical focus still remains on family planning. This is evident from the main objectives of the National Health Policy 2001. It states, "The current Population Welfare Programme aims at reducing growth rate from 2.4% to 1.9%, TFR from 5.2 to 4.2, and to increase

CPR from 24.4% to 40.3%” (GOP 2001). With such a formulation it is quite improbable that RTIs will get much attention at the governmental level. The problem is compounded by too many policies, programmes, strategies, interventions and targets set forth by government and its various ministries leading to lack of continuity in any policy and at times creating confusion over the roles and functions of different personnel and organisations. Examples in this regard are the Reproductive Health Services Package 2000, Population Policy 2002, Population Sector Perspective Plan 2002-2012, proposal for de-federalisation of population planning programme in July 2002, Population Welfare Ten Year Perspective Development Plan 2001-2011, and proposals for reproductive health and family planning in the light of the Millennium Development Goals (MDGs), all of which came one after another. All these plans and proposals emphasise improved curriculum and training, IEC campaign, maternal and child health, family planning, and involvement of males (GOP 2004). But the way this vision is to be implemented differs in these plans and each sets “targets” different from the other. Some of these “targets” set by the Government of Punjab include decreasing the population growth rate from 2.17 to 1.6 per cent by the year 2011, and to increase the contraceptive prevalence rate (CPR) from 30 per cent in 2001 to 53 per cent in 2011 (GOP 2005). Setting targets in no way humanises the implementation of population “welfare” policies.

At present, implementation of the population policy, which professes to include not just population planning but also population welfare, is being carried out by a battery of personnel/institutional setups with different titles but having primarily similar or overlapping roles. These include:

1. Basic health units (BHUs)
2. Family welfare centres (FWCs)
3. Lady health workers (LHWs)
4. Mother and child health centres (MCH)
5. Mobile service units (MSUs)
6. National health workers (NHWs)
7. Rural health centres (RHCs)
8. Reproductive health service units (RHSUs)
9. Village based family planning workers (VBFPWs)

Pakistan’s public expenditure on health (as % of GDP) is a mere 0.9% (GOP 2004), and the stated objective of the latest National Health Policy of “Health for All” (GOP 2001) seems like a distant possibility. The policy accords priority to the primary and secondary tiers of the health sector to take the pressure off the already stressed tertiary level. Family planning centres are a part of healthcare system at every level. However, at the lower level hospitals, there are shortcomings in emergency care, surgical services, laboratory facilities and at times even qualified practitioners as absenteeism is common due to a general lack of monitoring and accountability. Women with RTIs can go to hospitals/health services at any of these levels but it is usually at the tertiary level they can get any proper treatment.

III. Data source

The paper is based on primary data collected from 508 women in Rawalpindi city, a major urban area of Pakistan, in 2001-2002, called the Rawalpindi Reproductive Tract

Infection Study 2001-2002 (RRTIS 2001-2002)². A representative sample was drawn for the study using the primary sampling units (PSUs) of the Federal Bureau of Statistics (FBS) having women from all economic strata, as it was premised that with income differences come differences in other facets of a person's life. The study sample comprised of currently married women aged 15-49 years, having their husbands living with them. The median age of marriage in urban areas of Pakistan is still 19 years (PRHFS 2001), so inclusion of young females aged 15-19 years was a logical choice. Being currently married was of importance because if women were not in a current union they were unlikely to be sexually active or using contraceptives, which were factors of interest to this study. Similar reasons led to the decision to include only those women whose husbands were living with them.

For a holistic approach to the problem under study three basic tools were used for the collection of data. These were: conducting a questionnaire; having a clinical examination which was based on the Syndromic Approach³; and finally to have a laboratory diagnosis to ascertain the presence or otherwise of any infection. The questionnaire asked women about their: socio-economic characteristics; obstetric, gynaecological and contraceptive history; hygiene practices; experiences regarding RTIs; health seeking behaviour in case of experiencing RTI associated symptoms; and their autonomy status. RTIs included in the study and the assays used for ascertaining their presence or otherwise among women in the study are presented in Annex-II.

Out of the 508 women who were interviewed in full, 311 (62 per cent of the total sample) gave their consent for the medical part of the study. The total sample and the medical sub-sample were very similar apart from a 10 per cent over-representation of women from the poor economic strata and those who reported experiencing more symptoms associated with RTIs. The present paper mainly deals with the analysis of the medical sub-sample as laboratory results are considered a more accurate representation of reality regarding presence or absence of RTIs among women.

IV. Results

1. Place of obtaining contraceptives and RTIs

In the present study, the CPR was 48.2 per cent, with 38 per cent of these using modern methods (see Annex III). RTIs were found to be higher among contraceptive users than non-users, especially those using IUDs (54 per cent) and the ones who were tubectomised (39 per cent). Women using IUDs were more than three times likely to have a RTI, followed by those who were tubectomised compared to non-users (see Annex-I). Those using condoms, injections or traditional methods of rhythm or withdrawal had likelihood lower than that of non-users (Annex-I). This trend is consistent with the findings of other studies in the region that found IUD users and sterilised women having higher rates of infection (Hawkes, et al., 2002;

² The paper is part of a larger study conducted for the doctoral thesis at the Demography Program, Australian National University, on knowledge and perceptions of women regarding RTIs; self-reported and medically diagnosed incidence of RTIs among women and comparison between the two; and process of health seeking by women who reported having any symptom associated with RTIs.

³ Syndromic approach is based on identification of syndromes, which are a combination of symptoms, reported by the client, and signs, observed during clinical diagnosis, following the algorithms given by the WHO.

Wasserheit, et al, 1989; Shrikhande, et al., 1998). IUD use has long been linked to infections (Guerreiro, et al., 1998; Grimes, 1987; Farley, et al., 1992; Paavonen and Vesterinen 1980; Soderberg and Lindgren 1981), and findings of the present study also show that women using IUDs have an infection rate much higher than other method users or non-users.

Table 1 shows the source of getting different methods by contracepting women in the sample. The more permanent methods of IUD and tubectomy are the two preferred methods at the government level in Pakistan, and the delivery outlets are still given some “targets” to achieve every year in dispensing these methods. This is reflected in Table 1 as well where government run hospitals and MCH/FWCs are the main sources of inserting IUDs and performing tubectomies.

Table 1: Place of obtaining the used contraceptive

Method	Source of contraceptive (%) ***						Cases
	Government hospital	Private hospital/clinic	Social marketing services	MCH/FWC	Husband	Total	
Pills	9.5	4.8	81.0	4.8	0.0	100.0	21
IUD	36.8	31.6	10.5	21.1	0.0	100.0	38
Injections	0.0	0.0	93.3	6.7	0.0	100.0	15
Condom	8.2	6.8	41.1	11.0	32.9	100.0	73
Tubectomy	50.0	36.0	0.0	14.0	0.0	100.0	50
Total	23.9	18.3	33.0	12.7	12.2	100.0	197
(N)	(47)	(36)	(65)	(25)	(24)	(197)	

Source: RRTIS 2001-2002.

Note: 1. Excludes 51 contracepting women using traditional methods of rhythm and withdrawal.

2. Chi-square/Fisher's Exact test significance levels: *** p<.001, **p<.01, and * p<.05.

Condoms that can not only provide protection against pregnancy, if used properly, but also against transmission of infections were mainly obtained from social marketing services or bought directly from shops and general stores (by husbands). Evidence suggests that the social marketing services in Pakistan, like Key Marketing and Green Star, have contributed in raising awareness and use of condoms in the country (Hennink and Clement 2004). Use of pills, injections and condoms are the methods promoted by these marketing services. Husbands buying condoms directly from the shops can have its downsides if they do not already know the proper use of the method, as the method is sold without any counselling.

Taking the prospective users' medical and reproductive histories is important for an informed and medically sound decision regarding the type of method recommended. As Table 2 shows, around one third women were using contraceptives without any medical/reproductive history being taken. Prominent among these are women approaching MCH/FWCs and those whose husbands buy condoms directly from shops. Buying from shops/stores could be acceptable in case of continuing use but not

for first time users. Governments run hospitals fare better than the MCH/FWCs but lag behind private hospitals/clinics and social marketing services in taking reproductive history before recommending use of any particular contraceptive (see Table 2).

Table 2: Recording of reproductive history and conducting a pelvic exam at the time of suggesting/obtaining contraceptive

Source of contraceptive ***							Cases
Government hospital	Private hospital/clinic	Social marketing services	MCH/FWC	Husband	Total		
Taking of reproductive history ***							
Yes	74.5	88.9	86.2	16.0	0.0	64.5	127
No	25.5	11.1	13.8	84.0	100.0	35.5	70
Total	100.0	100.0	100.0	100.0	100.0	100.0	197
(N)	(47)	(36)	(65)	(25)	(24)	(197)	
Pelvic exam conducted ***							
Yes	59.6	72.2	13.8	0.0	0.0	32.0	63
No	40.4	27.8	86.2	100.0	100.0	68.0	134
Total	100.0	100.0	100.0	100.0	100.0	100.0	197
(N)	(47)	(36)	(65)	(25)	(24)	(197)	

Source: RRTIS 2001-2002.

Note: 1. Excludes 51 contraceptive women using traditional methods of rhythm and withdrawal.

2. Chi-square/Fisher's Exact test significance levels: *** $p < .001$, ** $p < .01$, and * $p < .05$.

Ideally, pelvic examination should be taken before recommending any contraceptive. The situation at the study site presents a contrary picture as less than third of the women went through a pelvic exam before recommended using a certain method (Table 2). The low percentage of conducting pelvic examinations even at the social marketing service centres hints toward a belief that pelvic exams are not needed when using methods like condoms, injections or pills. But the low and absent proportion of women having pelvic exam in government run hospitals and MCH/FWCs, respectively, is a source of grave concern as these are the sources that promote the use of IUD and tubectomy as contraceptive methods.

Despite all the talk about "population welfare", the practical focus still remains on family planning and target achievement. As findings of this study showed, women attending government run family planning services were not offered much choice in the selection of contraceptive method, nor were they informed about any possible side effects and the proper way of using any method. For instance, women were at times even coerced to use IUDs but they were neither screened before insertion nor were told that they have to get it removed after a specific time period, factors that could lead to getting an infection or aggravating an infection if they already have one.

If we look at the etiological presence of a RTI among contracepting women, we find that women whose sources of contraceptives are government run MCH/FWCs (53 per cent) and hospitals (43 per cent) have the highest rate of infection (Table 3). These are the two sources where IUD and tubectomy are the main recommended means of contraception, the two methods that are prone to have higher infections rates if not carried out under specific conditions and following strict procedures.

Table 3: Has any RTI etiologically by source of obtaining contraceptive

Has an infection	Source of contraceptive **						Cases
	Government hospital	Private hospital/clinic	Social marketing services	MCH/FWC	Husband	Total	
Yes	43.2	16.7	14.3	52.9	8.3	27.8	35
No	56.8	83.3	85.7	47.1	91.7	72.2	91
Total	100.0	100.0	100.0	100.0	100.0	100.0	126
(N)	(37)	(18)	(42)	(17)	(12)	(126)	

Source: RRTIS 2001-2002.

Note: 1. Excludes 71 women from Table 1 and 2 who refused having a medical examination.

2. Chi-square/Fisher's Exact test significance levels: *** p<.001, **p<.01, and * p<.05.

It would be of interest to see the presence or otherwise of any RTI among women using different contraceptive methods by source of obtaining it. As can be seen from Table 4, government run FWC/MCHs (53 per cent) followed by state hospitals (43 per cent) have the highest rate of infection among contraceptive users. Private hospitals (17 per cent) and social marketing services (14 per cent) have a rate much lower than government run services (Table 4). As stated earlier, IUD users (54 per cent) and those having a tubectomy (39 per cent) have a higher rate of having a RTI, as can be seen in Table 4. Condom users in this study have the lowest rate of infection (9 per cent), hinting yet again the usefulness of condom use as a prophylactic against pregnancy as well as infections.

Certain contraceptive methods, like IUD and tubectomy, can make women more susceptible to having RTIs (Population Council 2001, Cates and Stone 1992), but as Table 4 shows the higher infection rate in government run services is not only because IUD and tubectomy are the two preferred methods there. IUD users from government hospitals had a much higher infection rate (80 per cent) than the IUD users at private hospitals/clinics (40 per cent) and social marketing services (25 per cent). A similar trend is found for women who were tubectomised (Table 4), with women getting the procedure done at government run MCH/FWCs having a much higher rate of infection (86 per cent) than the private hospitals/clinics (11 per cent). This trend is too consistent to be attributed only to the nature of contraceptive and the resulting increased susceptibility of women due to a particular method. The higher rates of infection at government run facilities indicate that the system is lacking in conditions that could guarantee safe adoption of family planning methods.

Table 4: Etiological presence of RTI with the source and nature of used contraceptive

Source	Proportion having a RTI etiologically by respective contraceptive (%)					Cases having RTI	
	Pills	IUD	Injection	Condom	Tubectomy		Total
Government hospital	50.0	80.0	-	0.0	35.0	43.2	16
Private hospitals/clinic	-	40.0	-	0.0	11.1	16.7	3
Social marketing services	18.2	25.0	0.0	15.8	0.0	14.3	6
MCH/FWC	-	50.0	100.0	0.0	85.7	52.9	9
Husband	-	-	-	8.3	-	8.3	1
Total	23.1	54.2	11.1	9.1	38.9	27.8	35
(N having RTI)	(3)	(13)	(1)	(4)	(14)	(35)	

Source: RRTIS 2001-2002.

Note: Including only women who tested positive for a RTI in Table 3.

2. Place of having an operation on reproductive organ and RTIs

Iatrogenic factors can be a major source of infection during and after any surgery. Women in the present study were asked if they had gone through any operative procedure on their reproductive organs. Kind of surgeries reported by women include, induced abortion, dilation and curettage, caesarean delivery, removal of cyst in the uterus and removing of blockage in fallopian tubes. Taking into account women who had any of these surgeries, in two years preceding the survey as the cut off point, we find government hospitals to be the main source of getting these surgeries done, followed by private hospitals/clinics (Table 5).

Table 5: Presence of RTIs among women having an operation on reproductive organ by place of surgery in two years preceding the survey

Place of surgery	Has an infection etiologically (%)			Cases
	Yes	No	Total	
Government hospital	35.3	64.7	100.0	34
Private hospital/clinic	15.4	84.6	100.0	13
At home	66.7	33.3	100.0	3
MCH	25.0	75.0	100.0	4
Total	100.0	100.0	100.0	54
(N)	(17)	(37)	(54)	

Source: RRTIS 2001-2002.

Note: Including only women who had a surgery in two years preceding the survey and also consented for the medical examination to ascertain the presence of RTIs.

Although small in number, women having a surgery at home had the highest proportion having an infection. Such surgeries are often performed by ill-trained professionals or traditional birth attendants (*dai*) under unhygienic conditions so it is

not surprising to find two out of three women having an operation at home screening positive for a RTI (Table 5). The infection rate for women having surgeries at government run hospitals is a matter of concern as more than a third (35 per cent) tested positive for an infection, as can be seen in Table 5. Private hospitals show the lowest infection rate (15 per cent).

3. Place of getting antenatal care and RTIs

Getting antenatal care can have a positive influence on the health of the mother to be and findings of the present study also showed women getting antenatal care having a lower infection rate for RTIs than those who were not getting any such care, as can be seen from Table 6. The benefits could however be increased further if this opportunity is grasped to deal with any existing infection and by taking precautions to minimise incidence of any new infection. The present study shows that second only to those who had antenatal care at home (which again are a few in numbers), RTIs were more common among women attending government run services (Table 6). Traditional birth attendants were mainly offering these services at home, who do not have any formal training as such and have learned only through experience. It was mainly women with few economic resources who opted for *dai*. Given the lack of aseptic conditions that prevail in most low income households it is not surprising to find a higher rate of infection among women having antenatal care at home. Our interest here however are the women attending government run services and the relatively higher rate of infection among them.

Table 6: Antenatal care and infections among women having pregnancy in two years preceding the survey

	Has an infection etiologically (%)			Cases
	Yes	No	Total	
<i>Had antenatal care</i> ***				
Yes	19.8	80.2	100.0	116
No	33.3	66.7	100.0	45
Total (N)	23.6 (38)	76.4 (123)	100.0 (161)	161
<i>Place of getting antenatal care and etiological presence of a RTI</i> ³				
Government hospital	19.0	81.0	100.0	79
Private hospital/clinic	17.6	82.4	100.0	17
At home	33.3	66.7	100.0	3
MCH/FWC	23.5	76.5	100.0	17
Total (N)	19.8 (23)	80.2 (93)	100.0 (116)	116

Source: RRTIS 2001-2002.

Note: 1. Including only women who had a pregnancy in two years preceding the survey and also consented for the medical examination to screen for RTIs.

2. Chi-square/Fisher's Exact test significance levels: *** $p < .001$, ** $p < .01$, and * $p < .05$.

3. Including only those who had antenatal care.

Among the state run health facilities, women attending MCH/FWCs (24 per cent) were more likely to have an infection compared to those getting antenatal care at

government hospitals (19 per cent), as can be seen in Table 6. Lack of aseptic conditions at the health service accompanied by lack of training of the staff that is generally manning MCH/FWCs present a potential iatrogenic risk for RTIs.

4. Place of pregnancy outcome and RTIs

Women who had gone through a still birth or an abortion, spontaneous or induced, had higher infection rates in the present study (see Annex IV). Taking into account women who had been pregnant in two years preceding the survey, we see women who were currently pregnant to have the lowest infection rate (15 per cent) followed by those having a live birth (21 per cent). The infection rate increases dramatically for women having a spontaneous abortion (33 per cent), induced abortion (57 per cent) and still births (100 per cent), as can be seen from Annex IV.

Table 7: Place of pregnancy outcome, nature of outcome and presence of infection in two years preceding the survey

	Pregnancy outcome					Cases
	Live birth	Still birth	Induced abortion	Spontaneous abortion	Total	
<i>Place of outcome (%)</i>						
Government hospital	90.0	5.0	0.0	5.0	100.0	40
Private hospital/clinic	70.6	0.0	17.6	11.8	100.0	17
At home	76.7	0.0	5.0	18.3	100.0	60
MCH/FWC	90.0	0.0	10.0	0.0	100.0	10
Total	81.1	1.6	5.5	11.8	100.0	127
(N)	(103)	(2)	(7)	(15)	(127)	
<i>Proportion having an infection etiologically by respective outcome (%)**</i>						
Government hospital	22.2	100.0	-	0.0	25.0	10
Private hospital/clinic	8.3	-	33.3	50.0	17.6	3
At home	23.9	-	66.7	36.4	28.3	17
MCH/FWC	22.2	-	100.0	-	30.0	3
Total	21.4	100.0	57.1	33.3	26.0	33
(N with RTI)	(22)	(2)	(4)	(5)	(33)	

Source: RRTIS 2001-2002.

Note: 1. Including only women who had a pregnancy outcome in two years preceding the survey and also consented for the medical examination to ascertain the presence of RTIs.

2. Chi-square/Fisher's Exact test significance levels: *** p<.001, **p<.01, and * p<.05.

Various studies in countries in the South Asian region, having conditions similar to Pakistan in many ways, have shown that the odds of having a RTI increase with the number of pregnancies (including studies by Brabin, et al. 1998; Bhatia and Cleland 1995). These infections are mainly attributed to iatrogenic factors linked to pregnancy, delivery and abortion experiences. Pelvic inflammatory disease (PID) is the most common post-abortion complication, and Wasserheit (1989) estimated that

23 per cent of pelvic infections in Pakistan are among women who have gone through an induced abortion.

The outcome in itself is not a source of infection, they are the conditions in which the outcome takes place that makes women vulnerable to infections. Most of the pregnancy outcomes are still taking place at home, as can be seen from Table 7, and this includes not just live births but also induced and spontaneous abortions. Government run health facilities are generally dealing with pregnancies resulting in live births with only a small proportion being still births, induced abortion and spontaneous abortions. While private hospitals/clinics, like pregnancy outcomes at home, deals with pregnancies leading to not just live births, but also induced and spontaneous abortions (Table 7). Induced abortion is illegal in Pakistan, except under specific conditions where the life of the mother is at risk. However, abortions do take place clandestinely, which in most cases have repercussion that could be avoided if it was made legal. Government run MCH/FWCs are not authorised to carry out induced abortions but a few cases were found in the study (as could be seen in Table 7 as well) where women had their foetuses aborted by nurses or doctors' assistants at FWCs.

Coming to infection rates at different places of pregnancy outcome in two years preceding the survey, we see from Table 7, women at MCH/FWCs having the highest infection rate (30 per cent), followed by those having the outcome at home (28 per cent), government hospitals (25 per cent) and private hospitals/clinics that have the lowest rate for RTI (18 per cent). Small numbers notwithstanding, we do find a trend for different places regarding RTI rates among women attending the service. The infection rate at private hospitals/clinics is a low 8 per cent for live births and the total infection rate is mainly contributed by abortions taking place there (Table 7). This makes the over 22 per cent infection rate among women having live births at government hospitals appear very high and comparable to infection rates among women having live births at home.

Abortion, spontaneous or induced, has important repercussions for women with respect to reproductive tract infections. Usually it is induced abortion that is discussed in this context, but spontaneous abortions can be an equally significant issue for RTIs. In the study sample many women experiencing spontaneous abortions reported not being performed any dilation and curettage procedure to clean the uterus at the health service they approached. Any unprofessional handling or inadequate surgical evacuation can result in incomplete abortions, which can be a source of infections. Part of the conceptus/foetus is expelled but certain tissues, usually placental, could be retained by the body that remain unrecognised by women. In absence if any proper medical attention there are also chances of missed abortions, where pregnancy ceases to develop but conceptus is not expelled, and instead of bleeding there is excessive vaginal discharge, usually brownish in colour (Grudzinska 1999; Mackay and Evans 1994).

Although induced abortion is legally restricted in Pakistan it is not uncommon (Rehan et al., 2001; Saleem and Fikree 2001), as also confirmed by this study. However the laws restricting abortion mean that women opting for terminations have fewer options with regard to a safe abortion procedure and proper post-abortion care and treatment in case of complications. Some of the private clinics where these abortions take place are ill-equipped to handle any kind of emergency and usually maintain low standards

of hygiene, and can therefore be a source of post-abortion problems. Women with enough economic resources can get it done in the better-equipped private hospitals/clinics. It is mainly poor women who have to opt for unsafe, backyard abortions. One such woman, talking about her experience, said, *“I already had five children and didn’t want any more so went to a woman my neighbour told me about. She took me to a room and inserted something inside. I got rid of the child but bled so much, and since then I have this discharge and extreme pain in lower abdomen, and also feel pain when I ‘meet’ my husband. I should have carried on with the pregnancy”*.

5. Quality of medical practitioners at different service outlets

The quality of health care provided can be as good as the knowledge of the practitioner delivering it. We saw earlier that a substantial proportion of women were not asked about their reproductive history when suggesting a contraceptive, while conducting pelvic examination was even rarer (Table 2). A comprehensive reproductive history should include obstetric, gynaecological, menstrual and contraceptive history, and hence even when women report that their reproductive history was taken we cannot be sure how comprehensive it was. In order to check the knowledge level and practice of medical practitioners at different service outlets, questions regarding pelvic examination were put to them as a test case, results of which are presented in Table 8.

Table 8 shows that medical practitioners do not always know about the fundamental steps involved in a proper pelvic examination. Women’s comfort (including words of encouragement at the start and end, and lubrication and temperature of speculum/fingers) does not appear to be a priority with health professionals at any of the outlets and blatant disregard to following aseptic techniques is also found rampant enhancing iatrogenic risks. Such practices can not only lead to missing an opportunity to detect a RTI but also be a potential source of infection.

The knowledge level at government hospitals generally appears to be better than private hospitals/clinics and government run MCH/FWCs (Table 8). However, at the same time, the knowledge-practice gap is also widest at government hospitals. Private hospitals are not a homogenous commodity, and vary a lot in the quality of care they offer to their clients. The private sector doctors interviewed in the present study were mainly those working at the outlets where women included in the sample reported visiting. They were generally of average to good quality hospitals/clinics, with a few outlets that represented the lower end of the quality spectrum. In Table 8, the knowledge level of private practitioners on average is generally lower than the ones working at government hospitals but the gap between knowledge and practice is much narrower. The lowering of knowledge levels for private clinics and hospitals was generally caused by the low grade private clinics included in this category. But it could be inferred, from Table 8, that if a private hospital/clinic health professional knows about a certain thing she/he is more likely to practice it than their counterparts at government hospitals.

Table 8: Knowledge and practice of medical practitioners, in different types of health services, during a pelvic examination

Procedures <i>(N= Number of medical practitioners interviewed)</i>	Government hospitals <i>(N=17)</i>		Private hospitals/clinics <i>(N =12)</i>		MCH/FWCs <i>(N=11)</i>	
	% knowing	% Practicing	% knowing	% Practicing	% knowing	% Practicing
1. Washing hands	88.2	64.7	75.0	66.7	63.6	45.5
2. Wearing of gloves	100.0	70.6	83.3	75.0	45.5	18.2
3. Proper lighting	88.2	52.9	75.0	75.0	45.5	18.2
4. Angle of the patient/exam table	64.7	41.2	58.3	58.3	27.3	9.1
5. Explaining the procedure to the patient	70.6	29.4	66.7	58.3	36.4	27.3
6. Taking swabs from genitalia	82.4	47.1	75.0	58.3	36.4	9.1
7. Aseptic procedures followed in taking swabs	82.4	47.1	58.3	58.3	36.4	9.1
8. Doing a speculum examination	100.0	58.8	75.0	66.7	54.5	18.2
9. Using disinfected speculum	100.0	58.8	66.7	66.7	45.5	18.2
10. Using lubrication on speculum	82.4	29.4	66.7	50.0	27.3	0.0
11. Using a speculum with a desirable temperature	70.6	29.4	66.7	50.0	27.3	0.0
12. Doing a bimanual examination	100.0	64.7	83.3	66.7	54.5	36.4
13. Lubrication of fingers	58.8	35.3	66.7	50.0	18.2	0.0
14. Checking for discharge	100.0	70.6	75.0	58.3	45.5	36.4
15. Checking for tenderness	100.0	70.6	75.0	66.7	36.4	27.3
16. Checking for cervical abnormalities	82.4	58.8	58.3	41.7	27.3	18.2
17. Taking precautions against contact with body fluids	76.5	52.9	75.0	75.0	36.4	18.2
18. Concluding by a reassuring statement	64.7	29.4	75.0	58.3	36.4	9.1

Source: RRTIS 2001-2002.

The most striking and shocking fact, as can be seen in Table 8, is the very low knowledge level of health practitioners at the government run MCH/FWCs. The poor knowledge level is made worse by even poorer practice routines. Health practitioners at such centres were generally found to be quasi-trained in their profession and not having a very sound knowledge base. Interviews with personnel at these centres showed inadequate knowledge about family planning methods and reproductive tract infections, attributing wrong causes and consequences to the infections. On the other hand, government run hospitals had medical professionals that had an acceptable knowledge base but they reported to be so over-worked and pressed for time that they could not manage to follow the right protocols even if they wanted to. Lack of supplies and equipment, like autoclaves for disinfection, were also a source of not following the medical protocols. Some of the government run hospitals that did have autoclaves, the pressure of number of clients forced them to skip the use of speculums altogether while doing a pelvic exam. Likewise, absence of cotton swabs or basic reagents to test the discharge in a simple laboratory procedure were missing at the government hospitals, forcing doctors to rely on their judgement alone, something

which we know is not sufficient in the case of RTIs that are often asymptomatic among women.

V. Conclusions and Recommendations

“Reproductive health care services are essential for the exercise of these (reproductive) rights”, concluded Germain and Ordway (1989 p: 15). However, it is not only the availability of these services but the services should also be efficient, comprehensive and client-friendly to make a positive impact. Reproductive tract infections despite being a common problem among women in the country remain generally undetected in the current reproductive health care delivery system. Fertility control, and to some extent pregnancy care, continue to be the focus of government run family welfare programme. Women’s visits for even these two purposes are not used as an opportunity to detect or treat RTIs, and to make things worse the procedures adopted at these places can enhance iatrogenic risks for getting an infection, IUD insertions and tubectomies being examples in this regard. Women attending government run hospitals and, more so, MCH/FWCs for contraception, antenatal care, delivery or a surgery on any reproductive organ have higher rates of infection than their counterparts at private hospitals/clinics. Appropriate medical protocol involves taking reproductive tract history and conducting pelvic examination before advising/administering any contraceptive, something that was found to be lacking in most cases at government run facilities. Low knowledge levels and gap between knowledge and practice show lack of training and at times insufficient supplies available to the practitioners.

Integration, improvement and reorientation of government run health services appears to be the need of the hour. The concept of reproductive and sexual health, as envisaged by ICPD and ICPD +5, proposes to deal these health issues holistically. What Wellings and Cleland (2001) describe as “one stop shopping in an integrated setting”, it makes sense to control infection and unwanted conception in one clinical setting, by integrating RTI management services and the services provided by family welfare centres and MCH centres. It is an idea supported by many, including Guest (2003), Budiharsana (2002), Pachauri (1998), Piet-Pelon and Rob (1996), Mulgaonkar (1996), Costello (1998), Ndugga (1998), Wilkinson (1997), Amaral 1998 and WHO (1999). The rationale for making family planning and MCH/FWCs services the focal point of managing RTIs, including STIs, and integrating the two services is:

- i. These services address the needs of the same client that is the sexually active population.
- ii. Service providers at both need the same skills to address their clients’ needs.
- iii. Condoms and other barrier methods available for preventing unwanted pregnancies are effective in preventing RTIs.
- iv. It would be cost effective to have expanded reproductive health services in one place.
- v. As RTIs can affect the health of the mother and the newborn child, their diagnosis and treatment during pregnancy can have positive implications on the health of both.

Contracepting women, in the present study, had a higher rate of RTIs than those who were not using any contraception. Women using IUDs, which in most instances was offered to them as the only available contraceptive option, were most likely to have an infection, followed by the ones having gone through tubectomy. Most of these women had their IUD insertions at government run delivery outlets without any screening for infection before the procedure. Family planning programme in Pakistan is part of the population welfare division, which states its mission to “centre around population issues with a view to achieve replacement level fertility”. Despite this, Pakistan continues to have a fertility rate more than the desired one, even the one desired by women not just the state, and this preoccupation with reaching contraceptive use and fertility reduction targets has adversely affected the quality of family planning programme in the country. In an effort to achieve targets, women are offered limited choices, in some cases even coerced to use a particular method, without a concern for their choice and well-being⁴. Behaviour stemming from an effort to achieve targets can in cases lead to infections, as presented in situations where IUDs are inserted without screening for existing infections, and lack of aseptic conditions during the procedure, increasing the likelihood of having an infection. A lessened probability of infection, through pre-screening or treatment, can encourage women to adopt family planning practices, at least the ones for whom fear of infections is the main reason for resisting the use of any method.

Any improvement in health services would be of no avail without appropriate training and education of all professionals involved. Findings of this study showed that doctors, whom women were consulting, not always gave medically sound advice. This finding is supported by the study done by Khandwalla et al. (2000) about knowledge, attitudes and practices regarding STIs among general practitioners and medical specialists in Karachi, Pakistan. They found doctors, especially GPs, lacking in skills and knowledge to manage and counsel STI patients. Among specialists, they found urologists and dermatologists to be better equipped to manage STIs than gynaecologists, a finding having serious repercussions for the health of women. Most women, if consulting a specialist, would generally go to a gynaecologist to consult for such problems, and not an urologist or dermatologist, and it is also gynaecologists who are present in MCH/FWC centres. Another study in the country, done on the quality of care provided by private practitioners, showed poor prescribing practices among the health providers (Thaver et al 1998).

There is enough evidence to conclude that health providers are in need of better education, training and retraining. There could be problems with medical curricula as well, that needs to include more recent developments in medicine. Due to lack of skills or simple lethargy, doctors hardly use the equipment that is available at hand. Like, microscopes have long been available at least at health centres at district level but are rarely used, if ever. If their use in RTI diagnosis becomes a standard practice, health practitioners would not need to rely only on syndromic management of infections. Lack of education and training is thus leading to an under-utilisation of available facilities. Better trained health providers at lower rungs of the health delivery structure would improve the existing poor patient referral system, as also

⁴ Government’s preference for promoting tubectomy is expressed in the recent increase in incentives given to its service outlets where the surgery is not only free but an incentive of Rs.1000-2000 is given to the outlet, an increase from the present Rs.450-700 for each surgery (GOP 2005).

found by Siddiqi et al (2001), and Zaidi (1994), and reduce pressure on tertiary health services.

Recent evidence finally suggests a gradual increasing trend in the contraceptive use in both rural and urban Pakistan. Thus, now more than ever, there is a need to keep this momentum going if the country wants to achieve its long standing goal of checking population growth. However, this momentum would be difficult to maintain if associated issues, including RTIs, are not taken care of in pursuit of achieving contraceptive targets set by the government. Now is the time to make the ‘family planning programme’ in Pakistan a truly ‘family welfare programme’, in practice not just in words, and to ensure that it does not tread a path where someone has to deal again with the question that Robinson and his colleagues asked in 1981, “The family planning program in Pakistan: What went wrong?”.



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ANNEX-I

Logistic regression analysis of aetiological presence of at least one infection

Predictor Variable	Model 1		Model 2	
	Co-efficient	Odds ratio	Co-efficient	Odds ratio
Age of women				
>25 ^a				
25-34	.409	1.50	-	-
34<	-.118	0.89	-	-
Level of education				
11 or more years ^a				
Never been to school	.522	1.69	-	-
1-10 years	.281	1.32	-	-
Family Structure				
Nuclear ^a				
Joint/extended	-.763	0.47	-	-
Background area				
Urban ^a				
Rural	.076	0.93	-	-
Duration of Marriage				
16 years or more ^a				
1 year or less	.445	1.56	-	-
2-5 years	.327	1.39	-	-
6-15 years	.655	1.92	-	-
Economic group				
Upper ^a				
Middle	.353	1.42	-.452	1.57
Lower	1.407	4.09*	1.599	4.95**
Inter-spousal age difference				
Same age ^a				
Wife older	1.161	3.19	-	-
Husband 1-10 yrs older	.005	1.01	-	-
Husband >10 yrs older	-.041	0.99	-	-
Number of pregnancies				
1-2 ^a				
None	-6.393	0.00	-	-
3-4	1.113	3.04	-	-
5 or more	.867	2.38	-	-
Gap between the last two pregnancies				
None or only one ^a				
≤12 months	1.380	3.98*	2.835	12.03***
13-36 months	.136	1.15	1.453	4.27**
>36 months	.569	1.77	1.871	6.50**
Frequency of bath per week				
5 or more ^a				
1-2 times	1.794	6.02	-	-
3-4 times	2.122	8.35	-	-

Continued:

Continued Annex-I:

Predictor Variable	Model 1		Model 2	
	Co-efficient	Odds ratio	Co-efficient	Odds ratio
Menstrual hygiene				
Not menstruating ^a				
Commercial sanitary pads	.831	2.30	.645	1.91
Cotton wool/new cloth	1.167	3.21*	.921	2.51**
Old/used cloth	1.066	2.90*	1.133	3.11**
Current contraceptive use				
Non-users ^a				
Pills	-1.042	0.35	-.957	0.38
IUD	1.473	4.36*	1.248	3.49*
Injections	-1.973	0.14	-1.940	0.14
Condom	-2.018	0.13**	-1.845	0.16**
Tubectomy	.503	1.65	.198	1.22*
Rhythm	-6.533	0.00	-6.311	0.00
Withdrawal	-.508	0.60	-.257	0.77
Decision-making authority				
Major say ^a				
No say at all	1.619	5.05	-	-
Moderate say	1.052	2.86	-	-
Substantial say	1.025	2.79*	-	-
Freedom from threat				
Neither afraid or beaten ^a				
Afraid and beaten	-.324	0.72	-	-
Afraid but not beaten	-.368	0.69	-	-
Not afraid but beaten	.083	1.09	-	-
Freedom of mobility				
Needs permission:				
Never ^a				
Always	.338	1.40	-	-
Depends	-.320	0.72	-	-
Control over household income				
Has control ^a				
Does not have control	.404	1.50	-	-
Constant		-7.197***		-4.176***
Model Chi square		101.896***		72.535***
Degrees of freedom		41		15
R-square		41.9%		31.2%
Reporting predictive correctly		83.0%		81.7%
Hosmer- Lemeshow Test		.305		.690
Number of cases		311		311

Source: RRTIS 2001-2002.

Note: Chi-square/Fisher's Exact test significance levels: *** p<.001, **p<.01, and * p<.05, for having/not having any infection.

ANNEX-II
Laboratory assays used to detect RTIs

Infection	Detection Assay	Nature of Sample
Candidiasis	Culture- Gram Stain	Vaginal smear
Bacterial Vaginosis	Culture- Gram Stain	Vaginal smear
Trichomoniasis	Culture	Posterior vaginal smear
Chlamydia	Direct Fluorescent Antibody (DFA)	Endo-cervical vaginal smear
Gonorrhoea	Culture	Endo-cervical vaginal smear
Syphilis	Rapid Plasma Reagin (RPR)	Serum
Genital Herpes	Culture	Cells from lesions
Chancroid	Culture	Smear from the base of the ulcer, pus removed
HPV	Cellular morphology	Endo/ecto-cervix cells
Other ¹	Culture	Vaginal/cervical smear

Source: RRTIS 2001-2002.

Note: 1: The other category includes infections like E-coli, staphylococcus aureus, etc.,

ANNEX-III
Current contraceptive users

Method used	Percent	Cases
Non users	51.2	260
Users	48.2	248
<i>Pills</i>	4.1	21
<i>IUD</i>	7.5	38
<i>Injections</i>	3.0	15
<i>Condom</i>	14.4	73
<i>Tubectomy</i>	9.8	50
<i>Rhythm</i>	2.2	11
<i>Withdrawal</i>	7.9	40
Total	100.0	508

Source: RRTIS 2001-2002.

ANNEX- IV
Outcome of last pregnancy and presence of infection in two years preceding the survey

Pregnancy outcome	Has an infection etiologically (%) **			Cases
	Yes	No	Total	
Live birth	21.4	78.6	100.0	103
Still birth	100.0	0.0	100.0	2
Induced abortion	57.1	42.9	100.0	7
Spontaneous abortion	33.3	66.7	100.0	15
Currently pregnant	14.7	85.3	100.0	34
Total	23.6 (38)	76.4 (123)	100.0 (161)	161

Source: RRTIS 2001-2002.

Note: Chi-square/Fisher's Exact test significance levels: *** p<.001, **p<.01, and * p<.05.