

Health Care System of Pakistan: A Critical Overview of Maternal and Infant Mortality

Aamir Abbas¹, Muhammad Usman Bashir², Sanam Tajjamul³

¹College of Aviation Safety Management, Air University Islamabad Pakistan, ²PhD Scholar, Directorate of Liaison and Protocol HQ Comkar, Pakistan Navy, ³PhD Scholar, Sindh Education and Literacy Department)

*Corresponding E.mail aamirrana798@gmail.com

Abstract

Pakistan is a developing country and facing a lot of social problems, issues and challenges to meet its development goals in which maternal and infant mortality has become a great challenge for Pakistan. The objectives of the present research are to identify the causal factors of maternal and infant mortality and under-5 mortality trends in Pakistan. The approach of the present research study is to assess the healthcare system of Pakistan mainly focusing on maternal and infant mortality trends in Pakistan. The criteria for selecting the relevant papers involved an in-depth search within the peer-reviewed journals and high-impact factor journals publications through a snowball sampling technique and data is collected from secondary sources that include World Health Organisation reports, Ministry of Health Pakistan fact sheets, Demographic surveys of Pakistan, PDHS, UNICEF, MDG'S database and other cited literature on the concerned topic. Results of Pakistan economic survey 2018-19, Pakistan has also shown improvement in the infant mortality rate of 57.2/1000 from 66 per thousand in 2015 but unfortunately its the highest among the regional countries. In Pakistan, the skilled birth attendance ratio is about 18.8% followed up by pregnant women. Health indicators of Pakistan are very alarming among the south Asian regional countries and the poor public health care system in Pakistan has negative effects on its people related to the infant, maternal mortality, infectious diseases, and child health.

Keywords: Healthcare System; Maternal Mortality; Infant Mortality; World Health Organization; Pakistan

Background of the Study

Health is a condition in which the human body feels completely relaxed and comfortable i.e. physically, mentally, spiritually, socially (family and community), and environmentally where it lives and prevents the body from disease. Like the basic need of human food, shelter, clothes etc. health is also a basic need. Health is a basic need of all human beings as well as for animals also. When there is no health then the people of the society and the citizen of a country cannot perform their duty and role properly. It is the prime duty of the State to provide healthcare facilities to their citizen. When the State provides to their citizen with proper healthcare facilities and citizens do not face any type of difficulties regarding their health so the production of the country directly increases without any type of deal and problem (Bhutta et al., 2013).

Pakistan is a developing country and it is the 6th most populous country in the world with a total population of 207 million as per the statistics of the 2017 Census and among these almost 64% population of Pakistan is living in rural areas. It is being estimated by 2050 the population of Pakistan will reach 380 million surpassing the USA, Russia & Indonesia to become the 3rd most populous country in the world. Population growth is the main factor responsible for low economic development in developing countries. Without population stabilization, no one country can achieve sustainable development. This alarming situation of the high population growth rate is a matter of great concern for the federal and provincial governments. Now Pakistan took a few serious steps to tackle the menace of rising population growth. Illiteracy is a major factor responsible for population growth in Pakistan and other associated major factors like early marriages, deficient family planning, old norms and low use of contraceptives are also risk factors in population growth (Cesare et al., 2015).

Integrated Management of Pregnancy and Child Birth Care (IMPAC) in Pakistan

For maternal and neonatal care World Health Organization (WHO) recommended some facilities in the initial stages of the first level of health care. WHO integrated management of pregnancy and childbirth care (IMPAC) package facilities for maternal and newborn children and provide them with health care facilities. In developing countries WHO has guided the IMPAC to improve the health of the mother during pregnancy, childbirth, and post-natal duration (Bhutta et al., 2013). The study of the last decades provides us with knowledge and information about those countries where maternal and newborn child mortality is seen more they are poor and they have inadequate facilities due to

which maternal and newborn child faces problems. In this modern era, there is more need to improve maternal and neonatal health, which is the most significant issue that has arisen in the world, to make sure about these qualities which are directly related to the maternal and newborn child and facilitate them in all their dues. These standards are divided into six parts, the first five are related to clinical, where the last one is related to the basic health care service and the main purpose of this is to adopt proper methods and ensure the quality of maternal and neonatal health care (Hanif et al., 2021)

The standards for health care and newborn child are:

- A general standard is adopting those methods which are best for maternal health care and newborn child during pregnancy.
- Standards are to adopt immediate action in post-natal time and make sure safe care in childbirth.
- Standards are in favor of postnatal care.
- Standard is to manage the complexities which have happened in pregnancy, childbirth, and after childbirth.
- Standards are to take proper care of a newborn and to manage the complexities.
- Standard is providing health service deliveries.

Every year 5, 27,000 pregnant women are dying in developing countries due to lack of health care facilities and also from the multifaceted equipment and traditional methods and techniques adopted by the local people. Around 4 million children are dying in their first month of life. Mean that more than one-women die each minute worldwide, due to complication in healthcare facilities and the ratio is 46% greater than the developed country which is an alarming situation. An expected ratio and researches show that around 40% of children are dying in the initial days of their life or five years, and 98% are children related to developing countries, there have fewer healthcare facilities in developing countries for the healthcare of children and mothers.

From 1990 to date maternal and child care have improved by up to three quarters which is a piece of good news and information about maternal and child health care so there are more improvements are required for mother and child and their health care. The reason behind this improvement and decrease in mortality rate is that now the mother and child avail proper health care facilities, as well as skilled attendance and medical care, also facilitate them to achieve the goal. It is an alarming and major problem and issue in developing countries that women and children are dying during deliveries; however, a lot of improvement now is seen in maternal and child health care.

The first and fundamental step is prevention to make the mother and child's life safe during pregnancy. If properly skilled attendance doctors, nurses, and midwives combined or other facilities are provided in during delivery time so the life of mother and child is made safe, also decreases the chances of death of both or one. During pregnancy, if the pregnancy has become complicated so the proper arrangement of transport is compulsory to refer are shift the woman to the next hospital where these facilities are available.

In developing countries, a large number of deliveries have happened in homes. Home is not a bad place for pregnancy but the issue is that in the home there is no proper access to good equipment and facilities which are arranged by the hospitals, so sometimes major issues and problems are created to secure the patient from big major issues. It is necessary to shift the patient to the nearest health care unit to minimize the problem. Due to this step, the health of mother and child has become safe and preventable from any type of accident that is expected in pregnancy. If the appropriate doctors, nurses, and trained midwives are available so the risk has be reduced, and they will manage proper care of the patient which is fruitful for mother and child.

It is recommended that 10 to 30km of radius there must be an efficient health care unit or hospital to treat properly 30,000 to 50,000 people all types of facilities should be available here and the average response time should be 4-6 minutes. The impact of appropriate healthcare facilities has reduced the remarkable prevention of mortality of women and children. The maternal healthcare facilities are improved in the last two to three decades so the results are now changed and in developing countries, these changes have reached up to three times less than before.

MNCH in Pakistan

According to the Economic Survey of Pakistan 2018-19, the health indicators of Pakistan are very low among the regional countries. On the other hand, the health expenditures of Pakistan's GDP are also very low among the developing countries of South Asia and other developing and developed nations of the world. Meanwhile, Pakistan has also made a lot of improvements in terms of Infant mortality and Maternal mortality ratio in the last few decades but still, a lot of progress has to be made in this sector. Despite many social and political challenges, low levels of literacy, poverty, and lack of civic facilities such as proper sanitation and clean drinking water are the key factors that

also put a significant negative impact on the health condition of people. Although Pakistan has shown improvement in infant mortality rate from 66 deaths per thousand in 2015 to 57.2/1000 still these indicators are very alarming among the regional countries. The total fertility rate (TFR) has also decreased in the last two decades and substantial progress has been made in terms of maternal, newborn and child health (MNCH) which is still among the lowest progress among the neighboring countries i.e. India, Bangladesh and Sri Lanka.

In this regard, the Federal Ministry of Health and provincial departments of health have introduced substantial countermeasures and strategies to address maternal and infant mortality health issues. These key health initiatives related to maternal and child health are as follows.

- National program for family planning and primary health care
- National EPI program
- Nutrition project
- MNT- special immunization activities
- National program for control of diarrhoeal diseases (CDD)
- Acute respiratory infections control project
- Polio eradication
- Integrated management of childhood illness (IMNCI) Strategy (1998- ongoing)
- Women's health project (in 20 districts)
- Reproductive health project

Statement of the Problem

Maternal and infant mortality is a grave concern across the globe including in Pakistan. *Due to flaws in planning and implementation, this abrupt situation in the healthcare sector has intensified. Lack of knowledge, awareness, and natural disaster have aggravated this maternal health and children issues regardless of declining trends of mortality has been witnessed over the years but still, a lot of developments are much needed to be practiced for better health care services. Therefore, the researcher has conducted a research study on the healthcare system of Pakistan particularly focusing on Maternal and infant mortality.*

Significance of the Study

The present research study is helpful for healthcare professionals, paramedics, parents, and policymakers to understand the causal factors of maternal and infant mortality in Pakistan. Moreover, the comparative analysis of South Asia regions country in terms of the healthcare system particularly maternal and infant mortality will be helpful for Pakistan's healthcare system to mitigate the risk mortality trends.

Research Objective

The research objective of the present research study is as follows.

- To identify the causal factors of maternal and infant mortality trends in Pakistan.
- To identify under-5 mortality trends in Pakistan.
- To explore Maternal and infant Health Indicators in Pakistan.
- To identify trends of maternal and infant health indicators in the South Asia region.

Research Questions

The present research study has focused on the following research questions.

- What are the causal factors of maternal and infant mortality trends in Pakistan?
- What are the under-5 mortality trends in Pakistan?
- What are the maternal and infant health indicators in Pakistan?
- What are the trends of maternal and infant health indicators in the South Asia region?

Literature Review

Infant mortality in the world

An overview of the last 30 years the mortality rate of a child is too high, now it decreases and reducing at the rate of one-fifth, for example, Malaysia, Chile, and Portugal are those countries whose examples are in front of us. Overall in the world, health care system is improved. If the children are still dying at the rate of 1978 then there would be 16.2 million children die globally in 2006. However, in 1975 the mortality rate of children was different in rich and poor

countries. In the year 1978, the world 38% population was living in urban areas; in 2008 the rate of population increased to 50%, it is around 3.3 billion people are now living in urban or cities and in 2030 this ratio will increase to 5 billion. The main reason behind this change is that there are better healthcare systems and facilities are being provided in urban areas than the rural areas. In urban areas, good healthcare services are provided so people are migrating to urban areas for a better health care system and services (Pakistan Bureau of Statistics, 2017). According to finding of Cesar, 21% population is living under the poverty line which is a great challenge for Pakistan. In developed countries, they spend their GDP on healthcare facilities, in the USA more than 16-17% of GDP is utilized for the healthcare of their citizen. The USA is the seventh-largest industrialized country, so they spend more GDP on the health sector to improve the health of its people. In the UK government utilize its GDP of more than 8% and provide 85% of public health care facilities free. As we study the health system of France, Canada, Italy, Sweden, China, etc. We see that government is too much serious regarding their citizen healthcare facilities. Unfortunately, in Pakistan, the system is the opposite of the developed countries. According to the economic survey of Pakistan, in 2017 Pakistan is spending 0.5 to 0.8% of its GDP on the health sector for the last decade while the WHO benchmark of health expenditure is at least 6% of the GDP. According to the world bank's latest report, currently, Pakistan's per capita health spending is 36.2 US dollars which is below the WHO low-income countries benchmark of 86 US dollars. According to World Health Organization (WHO), at least 6% of GDP is mandatory to be utilized by every country for healthcare facilities. In Pakistan, public health provides only 20% which is too much lower than in the developed countries. It is the primary responsibility of the government of Pakistan to provide basic healthcare facilities to all citizens. It is dire need of time that the Governments of Pakistan should take necessary steps towards health care facilities and provide basic health facilities to everyone citizen without any charges or delay. Maternal health care is also a major problem in Pakistan. However, there is some improvement to be seen now than past, but this improvement is not up to the required standard. There is a huge difference in health care facilities in urban and rural areas of Pakistan. In urban areas, comparatively better healthcare facilities are being provided than in rural areas. In Pakistan, the health care facilities provision is the basic responsibility of its provincial government to look after health care facilities (National Institute of Population Studies, 2019).

The maternal mortality rate in Pakistan

According to the findings of the Pakistan demographic and health survey (2014), the literacy rate of Pakistan is also very low and it is 49% among the age group of 15 to 45 years in which the male ratio is 56% and females are 43%. Pakistan is ranked 149th out of 179 countries in 2015 on the Maternal Mortality Ratio Index which is an alarming figure. According to the survey of the WHO & UNICEF, division survey, the MMR cases ratio was 529 in Pakistan in the year 1990 and now it decreased to 332 in the year 2012 and now it was expected to reduce this figure up to 150 in the year 2015. Problems faced during pregnancy and childbirth are the main causes of death among women. According to Pakistan Demographic and Health Survey 2006-2007 (National Institute of Population Studies, 2008). It is an alarming situation that MMR is twice as in rural areas of Pakistan as compared to urban areas with a ratio of 319 vs 175 deaths which shows that people in urban areas are well aware of their health care and are being fully facilitated by the govt institutions with the provision of better health care services. These figures also vary among the provinces of Pakistan whereas in Punjab the MMR is 227 the lowest and the highest MMR ratio is 785 in Baluchistan.

Maternal & child health care services in Pakistan

In the last two decades, Pakistan has improved the health care system for maternal women and newborn children. In 1990 the maternal mortality ratio was 400 deaths per 10,000 live births and after a long time struggle the mortality rate now has been reduced and now it reached 170 deaths in 2013 (National Institute of Population Studies, 2008). According to the latest data, reports, and information, Pakistan has improved the facilities of maternal and pregnant women regarding their health care. Now Pakistan is moving toward the improvement in maternal health care facilities and also reduced and decreased the mortality rate, the mortality rate shows that before the time mortality rate was high and now it has reduced up to 57% with an average of decrease 3.6% per year. The chief cause of this improvement is the adoption of the latest health technology as well as also adopted latest health techniques, methods, and medicines well-qualified doctor and nurses all these changes have reduced the mortality rate.

Now everywhere and everyone is well informed and aware of their health. In the Modern and technological era, all the women in urban areas adopt and follow proper health care practices, the ratio is about 26.1% of women adopt the latest method and techniques and avail of the facilities which they received from health care institutions, traditional methods and techniques are adopted by 9.3% married women. In Pakistan, the skilled birth attendance ratio is about 18.8% followed up by pregnant women. More than half-child deliveries are done and completed at home with the help of traditional methods and techniques which are followed by the family and neighbor women. Around 48% of

deliveries are accomplished in healthcare institutions and hospitals. In Pakistan, the public sector help in deliveries is only 15% whereas the private sector helps up to 34% in birth.

Methodology

The present descriptive study was designed to assess the healthcare system of Pakistan mainly focusing on maternal and infant mortality trends in Pakistan. Due to flaws in planning and implementation, this abrupt situation in the healthcare sector has intensified. Lack of knowledge, awareness, and natural disasters have aggravated maternal health and children issues. The following section summarizes some of the most relevant studies in this area, highlighting the main mechanisms through which a comparative analysis of the Healthcare system of Pakistan in terms of Maternal and Infant mortality. The criteria for selecting the relevant papers involved an in-depth search within the peer-reviewed journals and high-impact factor journal publications through a snowball sampling technique and some other related journals, articles, and research paper has been also included for the present study.

Furthermore, data is collected from secondary sources, i.e. World Health Organization reports, Ministry of Health Pakistan fact sheets, Demographic surveys of Pakistan, PDHS, UNICEF, MDG’S database, and other cited literature on the concerned topic. In the following section, a further review is carried out concerning the empirical articles. Furthermore, data analysis is carried out in descriptive form for a better understanding of the nature of the study.

Results and Discussion

Under 5 mortality rate in Pakistan

According to the findings of Bhutta et al., (2013), Pakistan is on number 26th in the world for under-5 childbirth mortality in 1990 that under 5 childbirth mortality ratio per 1000 lives, birth was 141 now which reduced to 89 in the year 2012, but the goal was set to reduce the under-5 childbirth mortality up to 46 by 2015 is yet to achieve because still, flaws exist in our health care system so it will yet take a time to achieve this figure. According to Pakistan economic survey 2017 Pakistan has shown improvement in an infant mortality rate of 62 per thousand from 66 per thousand in 2015 (Pakistan Bureau of Statistics, 2017). According to the Pakistan Demographic and Health Survey 2006–2007, it explored that diarrhea and pneumonia are the leading factors with a ratio of 27% and 26% respectively causing death during the postnatal period and other associated health risk factors are nutrition, unhygienic environment, poor living condition, poverty, and sanitation as well.

Figure 1.
 Government Secondary Schools (Boys & Girls) in Sindh, Pakistan

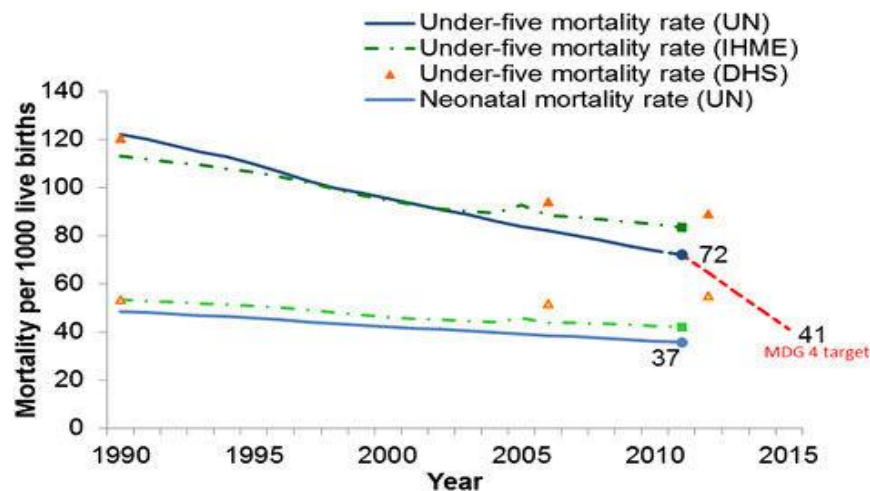


Figure 1. Under-five mortality rate from 1990-2015

Under-5 mortality trends in Pakistan

Socioeconomic characteristics of the families have a great influence on the maternal mortality rate and infant mortality. The maternal and infant mortality rate is so high in rural areas as compared to urban areas of Pakistan but on the other hand, this ratio of maternal and infant mortality is also high in urban slum areas. According to the National Institute of Population Studies Annual plan 2017-18, it is explored that infant mortality rate below one year is 61.4, and the infant mortality rate below five years is 85.4 per thousand in the mid of 2017. Mothers' education also plays an important role in under 5 mortalities in children. The ratio of under-5 mortalities is 112 and 57 children born to mothers with no education and secondary education respectively (National Institute of Population Studies, 2019; National Institute of Population Studies, 2019).

Maternal Health Indicators in Pakistan

Table 1 determines the maternal health indicators in Pakistan which are based on different sources mentioned below.

Table 1.

Maternal Health Indicators in Pakistan

S.No	Indicator For Maternal Health	Trends In Pakistan
1	MMR /Per 100,000 live birth	490 (1990) to 200 (2010) to 165.6 (mid 2017)*** Avg annual rate reduction 3.4% (2015)**
2	Skilled health Workers for child birth	19% (1990) to 43% (2010-11)* to 55% (2015)**
3	Contraceptive prevalence method	11.8% (1990) to 35% (2012-13) 40.6% (mid 2017)***
4	Adolescent birth rate/1000 women	73.3% (1992) to 16.1 (2007)*
5	Antenatal care (4 + visits)	14.9% (1991) to 28% (2007)* to 40.1% (mid 2017)***
6	Unmet need of contraceptive	30.5% (1991) to 25.2% (2007) * to 19.8% (mid 2017)***

These indicators are retrieved from UN database resources and PDHS survey records.

*Data were taken from MDG'S database

** UNICEF global database 2015

*** Track 20 project (FP-2020) office, Islamabad, Pakistan

Table 2.

Trends of maternal health indicators in South Asia region

S.No	INDICATORS	AFG	BAN	IND	NEP	CHI	IRA	PAK
1	Annual MMR Reduction	7.9	5.2	6.3	7.4	4.9	-	3.4
2	Birth attended by skilled health professional	45.6	42.7	60.1	27	99.6	97.3	57
3	Contraceptive use among married women	33.8	72.2	64.8	-	94.6	83.3	40.6
4	Adolescent birth rate/1000 women	90	128	38.5	81	6.2	31.3	16.1
5	Antenatal care coverage at least 4 visits	23.4	34.2	46	59.2	-	97.3	40.1
6	Unmet need for family planning	-	10.5	18.5	21.5	2.3	-	19.8

*Indicator % for the above countries may vary in terms of the most recent year of the demographic health survey.

Table 3.

Important demographic indicator of Census Pakistan 2017

INDICATOR	MID 2017
Population	207 million
Male (million)	106
Female (million)	101
Urban Population (million)	89.65
Male million	46.17
Female million	43.48
Rural Population (million)	108.72
Male (million)	55.99
Female (million)	52.73
Total Fertility Rate (TFR)	3.57
Crude Birth Rate (per thousand)	24.8
Crude Death Rate (per thousand)	6
Population Growth Rate (percent)	1.9
Contraceptive Prevalence Rate* (percent)	40.6
Life Expectancy (year)	69.8
Female	70.2
Male	69.4
Unmet need of contraceptive*	19.8
Infant mortality (below one year)	61.4
Infant mortality (below five year)	85.4
Maternal mortality**	165.6

Source: Pakistan Bureau of Statistics, 2017)

*Source: Track 20 Project (FP-2020) Office, Islamabad, Pakistan

**Source: World Health Organization (WHO)

The governments of Pakistan also took a good step towards the improvement of maternal health care and child health care facilities for the citizen. The government provides around 30% of basic health units and upgraded 02 health care centers in rural areas of every district, government also provided ambulance facilities for further and necessary action if required. Pakistan's government is too much serious regarding this issue; KPK and Punjab government have improved their maternal health care system and facilities whereas Sindh and Baluchistan are preparing their maternal health care facilities with the help of local and federal banks system.

In maternal health care, the lady health worker (LHW) plays an important role in urban and especially rural areas of Pakistan. These LHW are supported by provincial and further local governments and authorities help them. They increase their power in remote areas and the provincial government desired that these LHW are continuing their duty to support people in maternal and child care. At the end of 2012, UNICEF helped more than 48 district hospitals and health care units to facilitate maternal and newborn children in emergency cases. Also, the provincial government support and facilitates these maternal and newborn child health care units, which are also a requirement of UNICEF and also stresses maternal health care services.

In maternal and child health care facilities Pakistan has a slow steady movement towards the Millennium Developing Goals (MDP), to achieve these desired objectives and purposes which is the aim and target to be achieved in 2015. But after a long time, Pakistan is still not in a position to resolve all the problems which are faced by maternal. Some factors and reasons behind this failure are natural disasters in Sindh, Punjab, and Baluchistan while is some in KPK (FATA), some violence is created so this is some reason for failure to achieve the selected goals which are aimed and targeted by the government of Pakistan to be achieved in 2015. The maternal mortality ratio (MMR) is still high in Pakistan it is about 178 per 100,000 live births. Pakistan is still facing some type of difficulties in maternal health care. Some of them are skilled birth attendance during pregnancy time, utilizing the iron and folic acid during pregnancy and delivery time is safer and more secure for the life of the mother and newborn child, to utilize these opportunities and methods and medicines these things increase the life chances of mother and a newborn child.

However, in urban areas, maximum mothers are using and availing of such types of healthcare facilities and services while in rural areas where there is a lack of health facilities as well as people are not well known about their health. Now what necessary steps should be taken to make safe and secure their own life as well as the newborn child, so in rural areas, every fifth woman utilizes these healthcare facilities which are very low ratio. UNICEF aimed Pakistan with federal and provincial governments regarding maternal and newborn children to facilitate health care facilities and to reduce the mortality of women and children during pregnancy this promotion is initiated in 2012. Recently UNICEF team worked together with the provincial government, the purpose and theme of the campaign were to reduce the mortality rate and provide basic health care services and also study the main reason behind the mortality of mothers and newborn children, and also research find out such types of problems.

Conclusion

It is a dire need for time to improve the state of MNCH in Pakistan through effective countermeasures and strategies in line with policy guidelines to achieve the desired health indicators that tend to improve the economic growth of Pakistan as well. In the current impulsive security condition, better health indicators can be achieved by ensuring the provision of better healthcare services and increasing overall infant and maternal health awareness in the community. Healthcare is a very important sector in human life but unfortunately in the past few decades due to hampered economic growth the government of Pakistan could not pay adequate attention to it. That's why the health indicators of Pakistan are very alarming among the south Asian regional countries and the poor public health care system in Pakistan has negative effects on its people related to the infant, maternal mortality, infectious diseases, and child health.

Whereas, there is a clear difference in the healthcare facilities provided in the urban and rural areas of Pakistan resultantly making the situation adverse. Therefore, it's high time for the people of Pakistan to start raising strong voices against the government for fulfilling its commitment to the healthcare system because a healthy nation means healthy manpower and a healthy economy. However, the data showed a promising leaning in overall improvement of maternal and infant health but still, it needs a lot of improvement to provide better health care services to the people of Pakistan by improving the health care structure, health care services providing staff concerning their training and skills.

Recommendation

It is suggested that government and policymakers should formulate policies to upgrade the healthcare system of Pakistan and all those deficiencies which are identified should address them properly. Mitigating strategies should be formulated for the appropriate and timely transfer of women in need of higher-level care.

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