DETERMINANTS OF MATERNAL HEALTH IN BALUCHISTAN: SECONDARY ANALYSIS OF PAKISTAN DEMOGRAPHIC AND HEALTH SURVEY 2012-13

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Submitted in Partial fulfillment of the requirement for the award of MS degree in Sociology, Department of Sociology, Faculty of Social Sciences, International Islamic University Islamabad

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It is certified that thesis submitted by Mr.Najeeb-ur-Rehman RegistrationNo.209-FSS/MS5OC/S15 titled **"Determinants of Maternal health care in Balochistan: Secondary analysis of Pakistan demographic and health survey 2012-13"** has been evaluated by the following viva voce committee and found that thesis has sufficient material and meets the prescribed standard for the award of MSdegree in the discipline of Sociology.

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Dedication

I would like to dedicate this thesis to my beloved parents who lead me through fingers, guided me grow in stature and personality; molded me to win over every odd of life.

Najeeb-ur-Rehman Babar

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Prima facie, I am grateful to the Almighty Allah for bestowing on me courage, enthusiasm and good health that necessary to complete this study. Moreover, I would like to express my sincere gratitude to my supervisor Prof. Dr. Saif Abbasi for the continuous support, motivation and enthusiasm, he had rendered for this research work

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ABSTRACT

Pakistan has been struggling with achieving the MDGs 4 and 5 now transited into SDGs, and faces challenges to reduce the burden of maternal and neonatal mortality rate which reflexes well overall maternal health situation in the county. The maternal health situation in Baluchistan is further deteriorated as the province secured lowest position in providing maternal health care services to women of reproductive age as compared to other provinces in Pakistan (PDHS 2012-13). The aim of this study was to determine the impact/significance of association of independents variables (Demographic and socio-economic characteristics) and dependent variables (ANC, delivery care and PNC) on the utilization of maternal health care services in Baluchistan. The data was collected from Pakistan demographic and health survey 2012-13 and sampling frame of the study was women of the reproductive age (15-49) from urban and rural areas of Baluchistan. Secondary data analysis was carried out to assess the data. The results of this study found that majority of the women particularity from Baluchistan rural 77.55% don't visit to health care provider during pregnancy (ANC), around 87.19% of women (rural) not provided with assistance at time of birth (Delivery) and 64.53% of women (rural) did not visit health care provider after delivery. The Bivariate statistical analysis of the study also suggested that independent variables (Education, wealth index, and number of children) were positively associated with utilization of maternal health care services in Baluchistan. Policymakers and health planners may use these findings to develop efficient strategies, particularly for women in rural areas to improve the utilization of maternal health-care services in Pakistan.

LIST OF ABBREVIATIONS	
ABBREVIATIONS	**DESCRIPTIONS**
ANC	Antenatal Care
CMWs	Community Midwives
FATA	Federally Administrated Tribal Areas
FPS	Family Planning Services
IPV	Inter Partner Violence
IYCF	Infant and Young Child Feeding
LHV	Lady Health Visitor
MDGs	Millennium Development Goals
MDS	Million Death Survey
MHC	Maternal Health Care
MMR	Maternal Mortality Rate
NIPS	National Institute of Population Studies
NNS	National Nutrition Survey
PAHO	Pan American Health Organization
PBS	Pakistan Bureau of Statistics
PDHS	Pakistan Demographic and Health Survey
PNC	Postnatal Care
SBA	Skilled Birth Attendant

SDGS	Sustainable Development Goals
SPSS	Statistical Package for Social Sciences
UN	United Nations
UNFPA	United Nations Fund for Population Activities
UNICEF	United Nation International Children' Emergency Fund
USAID	United States Agency for International Development
WHO	World Health Organization

Chapter One

1.1 Introduction

Pregnancy and motherhood are considered natural processes in the life of every woman of reproductive age. These processes are generally seemed healthy and fulfilling experiences. However, due to various factors, many women face complications and die during pregnancy, delivery and postpartum period.

"No matter where a woman lives, giving birth should be a time of joy, not a sentence to death"

(Thoraya Ahmed Obaid, Former Executive Director of UNFPA)

The improvement in maternal health situation and decreasing maternal mortality ratio are recognized severe human rights challenges and these problems have been given preference in different international declarations and national policies. Global health over past five decades have brought several marvelous achievements due to the progress in scientific knowledge and availability of modern technology however enhancing maternal health and reducing maternal mortality remains a serious challenge to most of the second and third world countries (Agha & Tappis, 2016).

Severe maternal health situation in the world got the attention of global community and they set together to resolve this problem along with other social issues by developing consensus. They came up with declaration in the year 2000 called "Millennium Development Goals (MDGs)" and fifth goal of the declaration particularly focuses on improving maternal health situation by reducing maternal mortality ratio up to three-

quarters till 2015 (Organization, 2005). Recent analysis of MDGs disclosed that between 1990 to 2003, the MMR globally decreased by 45%. However, the progress toward seeking MDG 5 is off the track in many countries (Organization & Unicef, 2014; Hogan et al., 2010; Nations, 2012 and Starrs, 2006).

Due to unsatisfactory performances in achieving MDGs by many developing and underdeveloped countries, global community transited MDGs into SDGs to continue the process for making further improvements particularly in maternal health care. The third goal of SDGs is mainly concerned with maternal health care, which reads "ensure healthy lives and promote well-being for all at all ages". The target of SDG for maternal health care is to reduce global maternal mortality ratio to less than 70 per 100,000 live births by year 2030. Currently, it is 216 out of 100,000 live births for 183 countries globally, and 176 for South Asia (khan & Noreen, 2016).

The latest global estimates regarding maternal health situation reveal that due to maternal health causes, 289,000 women died during 2013. In 2013, total maternal deaths worldwide, 99% occurred in the global south, comprised of 62% deaths in sub-Saharan Africa and 23.9% in Southern Asia. It is predicted that one woman dies out of every 20 women which suffer from pregnancy-related complications, infection, disease or morbidity, which sometimes ends in long-term maternal disabilities like prolapse, infertility, incontinence or fistula (Nanda, G. et al., 2005). There is significant discrepancy in MMR observed in various parts of the world. Th average MMR in world was recorded as 210 in 2013, while the global south (230), in other words developing countries had 14 times higher MMR than that of the developed countries (Purohit, 2010).

1.1.1 Seeing Maternal health care through Pakistan's context

Maternal health care situation is poor particularly in Pakistan and women's intake of such services is meager. The predicted Maternal Mortality Ratio in the country is approximately 500 per 100,000 live births (Organization & Nation, 2004). Due to patriarchal structure of Pakistani society, there is clearly demarcated gender roles and there is gender discrimination in access to all types of resources (Durrant & Sathar, 2000). At macro-level, a feudal socio-political system which encourages inequitable resource distribution, augmented hy a conservative religious ideology, generates rigid class and gender hierarchies (Hafeez, 1998). At micro-level, marriages are largely arranged within the kinship, and woman's security in her marital home was guaranteed by reproduction of the patrilineal lineage (Winkvist & Akhtar, 2000).

The social position of female in society and their treatment is an important determinant of their maternal health care (Mumtaz & Salway, 2007). The social construction of gender has segregated gender roles into; man, as breadwinner and decision maker while woman as dependent and homemaker. The customization of purdah in our society further support the demarcation of gender roles and is closely tied to the honor of men (khan, 1999), which ultimately limit the access of women to seek maternal health care services.

Pakistan has been struggling with achieving the millennium development goals 4 and 5: Hence, she faces challenges to reduce the burden of maternal and neonatal mortality rate. Pakistan secures sixth position in the most populous countries in the world. In 2008, 50% of maternal deaths that happen in the world came from six countries. Unfortunately, Pakistan was one of them. Statistics reveals that in every 20 minutes, a woman dies due to maternal causes in Pakistan (Yunus et al., 2013). Due to huge rural and urban discrepancy

(319 for rural and 175 for urban areas), The country has one of the highest Maternal Mortality Ratio (MMR) which is 276 per100,000 births. Similarly, for every 1,000 children born, 45 do not live long beyond their first 28 days of life and 77 not see their first birthday (NIPS, 2008). Pattern of under-five child mortality shows that over half of deaths happen during neonatal period (i.e. first 28 days) and 26% occur during postnatal period and higher in rural areas (PDHS, 2006-07). The highest risk factor responsible for death of both mother and newborn is the time of delivery or postnatal period (Hunte & Sultana, 1992). More than 60% of maternal mortality happen in the first 24 to 48 hours after childbirth whereas rest occur during the first week of delivery. It is estimated that nearly 4 million new-borns (10,000 per day) die annually worldwide (Lawn, Cousens, Zupan, & Team, 2005).

1.1.2 Analyzing situation of Maternal health care in Baluchistan

Geographically, Balochistan is the largest province and is abundant in natural resources. surprisingly, it is least developed socio-economically and politically as compared to other provinces in Pakistan (Ghaffar, Pongponich, Ghaffar, & Mehmood, 2015). The Urbanization and social processes have been slow due to conventional economic structure, absence of local industry, limited access of people to media and technology, less share in developmental projects and social-cultural barriers with social mentality less supportive to the progress in the province. Majority of people in the province are uneducated/unskilled and still live under traditional tribal setup (NIPs, 2013). They have occupations such as animal husbandry, agriculture and government jobs hold by the males. Patriarchy is deep rooted in the social structure of the province which, in turn creates gender hierarchies,

gender roles demarcation and play greater part in the suppression of women. Women have no/less authority to decide independently about their health particularly and life generally.

Maternal health situation in Balochistan is severe and needs special attention from authorities in the province, so that may come up with equipped strategy and program to address this issue. Maternal and child mortality remain high in Baluchistan as compared to other provinces of the country. Dr. Ali Nasir Bugti Provincial Coordinator Nutrition Program Government of Balochistan disclosed that a total of 785 mothers lose their lives during pregnancy in Balochistan out of 100,000 live births as compared to 272 in the rest of the country (Shah, 2014). He further argued that Balochistan has highest child mortality rate with respect to other regions in the country. Hence out of 1000, a total of 158 children die during birth relative to 103 in other parts of Pakistan. The grim picture regarding maternal health situation in Balochistan depicted by NNS 2011 revealed that the prevalence of maternal anemia is 47.3% and chronic malnutrition is 52.2%. Pakistan demographic and health survey 2012-13 also argued that Balochistan (urban:60.1%, rural:40.4%) has occupied least position in women's access to antenatal care services as compared to other provinces such as Punjab (89.9%, 76%), Sindh (93%, 68%) and Khyber-Pakhtunkhwa (86.3%, 58%).

Almost same is the case with assistance provided at time of birth which indicated that the most perceived skilled person providing help at the time of birth is Traditional Birth Attendant (TBA) with respect to urban (61%) and rural (72.5%) areas in Balochistan as compared to Punjab (30.3 %, 51.1%), Sindh (20.2%, 48.3%) and Khyber-Pakhtunkhwa (22.1%, 24.2%) respectively (PDHS, 2102-13). It also means that women of reproductive

ag in Balochistan have comparatively less access to doctors and nurse/midwife/lady health visitors providing help during delivery than Punjab, Sindh and KP.

Women access to health care provision after delivery significantly varies from region to region. Hence, respondents from Balochistan (12.5) have less access to Doctors/nurse/midwife/LHV in comparison with other provinces like (KP: 35.5%, Sindh:56.5%, Punjab: 50.6%, ICT Islamabad: 75.9%, Gilgit Baltistan:19.2%) and women most frequently visit DAI/TBA after delivery in Balochistan relative to other regions like (Baluchistan: 24.7%, KP: 2.4%, Sindh: 9.6%, Punjab: 15%, ICT Islamabad: 1.5 and Gilgit Baltistan: 0.7%). Same is the case with "no postnatal checkup in first two days after birth" in which women from Balochistan have comparatively second lowest position in terms of seeking postnatal checkup in first two days after birth except Gilgit Baltistan like (Balochistan: 62.8, KP: 62.8, Sindh: 33.7, Punjab: 34%, ICT Islamabad: 22.1 and Gilgit Baltistan :80.1%). Furthermore, education and wealth index have also great impact on respondents' access to health care provider after delivery (PDHS, 2012-13).

So factors considered to be associated with women's limited utilization of maternal health care services in Balochistan are; low wealth index of house hold and women's less control on financial resources, place of residence, lack of transportation at the time of urgency due to maternal health complications, low literacy, less supportive cultural value system, low awareness/sensitization about maternal health care provided by community health workers to the women of reproductive age, insufficient and inconvenient programs/initiatives from public health sector especially in rural areas of Balochistan (Ghaffar, Pongponich, Ghaffar, & Mehmood, 2015).

1.2 Statement of the problem

The maternal health care situation is severe and needs special attention from authorities to overcome this issue in Balochistan. There are couple of factors such as lack of awareness regarding maternal health, vulnerable socio-economic conditions of household and women's less control on financial resources, incapable public health system, substandard health care services in the province, less autonomy of women in taking decision regarding their health due to patriarchal mentality and most importantly the centralization of health care services in urban areas while negligence of peripheries in public health system. These all factors have significantly influenced the women's choices and access to get basic knowledge of Maternal health care such as pre-existing conditions at antenatal care, lack of skilled birth attendants, unhygienic place of delivery and almost have no access to health care provider during and after delivery which ultimately enhanced the maternal and child mortality rate in the province as compared to other regions of the country. Main purpose of this study is the empirical and sociological analysis of maternal health care in Balochistan and its comparison with other provinces of Pakistan. Secondary analysis of Pakistan demographic and health survey (2012-13) was conducted with relevance to maternal health care in Balochistan.

1.3 Objectives of the study

1. To study socio-economic and cultural profile of respondents from Balochistan participated in PDHS 2012-13.
2. To analyze the attitudes and trends regarding unitization of antenatal health care services in Balochistan.

3. To evaluate the attitudes, visible/invisible barriers and trends regarding utilization of delivery care and postpartum care in Balochistan.
4. To identify mothers' awareness, interest and adoption of modern techniques about maternal health care services in Balochistan.

1.4 Hypothesis

1.4.1 There is association between education of the respondents and use of antenatal care

1.4.1.1 Respondents with higher education used more antenatal care services.

1.5 Significance of the study

This study is significant from sociological perspective because less attention has been devoted to examining the situation of maternal health care both from intellectual (research work and knowledge) and policy implementation in Balochistan. There is no proper mechanism (surveys, statistics recodes, reports, seminars) conducted by public health institution in the province that explore the alarming situation of maternal health care and that create awareness among people and suggest remedial measures to improve this phenomenon. This study conducted secondary analysis of Pakistan Demographic Health Survey (2012-13) with relevance to maternal health care situation in Balochistan and aimed to explore the depth insights, factors and cause of worst situation of maternal health situation in Baluchistan. It would also suggest measures to concerned public and private sectors to make public policies that enhance maternal health care and better wellbeing of women in Balochistan.

1.6 Theoretical Framework

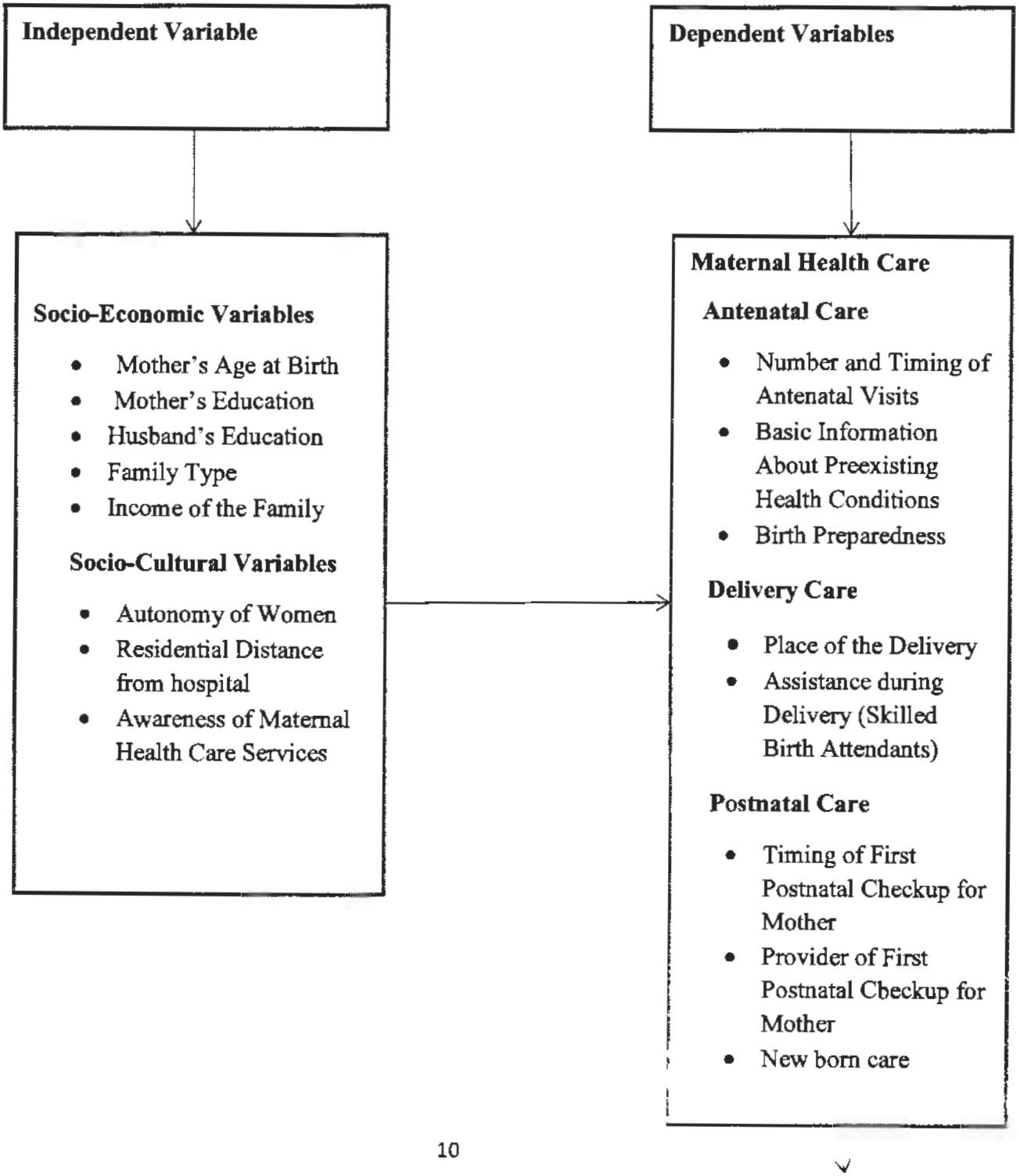
Theoretical framework of this study is deeply embedded into social model of health theory. "Health is a state of complete physical, social and mental well-being and not merely the absence of disease or infirmity". It is the fundamental right of every person to enjoy the highest attainable standard of health without discrimination based on race, religion, political beliefs or economic and social conditions." (Organization, 1948). WHO argued that the social determinants of health are "the conditions in which people are born, grow, live and work. These conditions are constructed by the distribution of money, power and resources at global, national and local levels" (Organization, 2012).

In 1991, Goran Dahlgren and Margaret Whitehead developed a social model of health. It was derived from social model of disability, which had strongly advocated hy the disability rights movements. This model was made as resistance to traditional medical model of health. The social model of health considers all the determinants important/significant such as individual, social, cultural, political, structural and environmental factors which contribute to the health of individual, group and community as whole. It is deduced from social model of health that health of the people is not just affected by the physical and environmental living conditions. The psychosocial factors such as social status, social networks and individual lifestyle work alongside economic and environmental factors in determining health.

By applying this theoretical framework to the present study, it is elucidated that bow the interplay of individual/personal characteristics (Age, sex), individual life style (knowledge and choices of woman that she makes regarding her health), social or community network (family, family size, relationship to the head of family), living conditions (access to health,

education and sanitation), socio-cultural and economic factors influence women's knowledge, access and utilization of maternal health care in Pakistan generally and Balochistan particularly.

1.6 Conceptual Framework



Chapter Two

2. Review of the Literature

This chapter comprising literature review deals with research studies, articles, published reports and research papers that supporting empirically and theoretically the essence of researcb topic maternal health care. The review of literature is divided into four parts. First part of the review consists of the correlation between socio-demographic, economic variables and maternal health care. The second part deals with the impact of antenatal care on maternal health situation. The third and last part of the literature postulates the effect of delivery and postnatal care on maternal health care and how maternal health care corresponds to changes in dependent variables.

2.1. The Impact of Socio-demographic and Economic factors on Maternal Health Care

It is viewed that women's knowledge, attitude and health seeking behavior is significantly influenced by the socio-demographic and economic conditions, she lives in. Such conditions are discussed in the following.

2.1.1 Mother's Age and Education

It is argued that there is relationship between and utilization of maternal health care services and Mother's age. It is viewed that Mothers with age group 25 to 35 years utilize more ANC and skilled birth attendance services than mothers of the age group 35 to 44 years, while Mothers with age group 15 to 24 years manifest least utilization of MHC services (Chubike & Constance, 2013).

There is another research study which hold almost the same argument that age of the mothers has substantial impact on the antenatal care. Mothers with young age (age 35 or

under) are more likely to seek ANC from a skilled health provider as compared to mothers with old age (age 35-49) such as mother's age categories <20 (78.8%), 20-34 (77.4%) and 35-39 (64.8%) have received antenatal care respectively (NIPS, 2013).

Education is perceived one of the significant social developing factor, especially for mothers that sensitize/enhance their mental approach on how they see their socio-reproductive experiences. It also expands their understanding to make fruitful choices for themselves as well as rearing and bearing of their children. Education, it is argued stimuli women's belief about good health, causes and curses of diseases that increases the demand of the utilization of modern health care facilities. Consequently, educated mother is more likely to seek medical treatment for themselves and for their children (Z. Khan et al., 1994). Education is one of the important factor affecting deployment of maternal health services. The role of education is to improve women decision making. It is observed that health related issues have been already published various research studies as they are more inclined towards using ANC and PNC services (Nair, Ariana, & Webster, 2012). It is argued that mother with no/less education have higher tendency of giving births, especially desiring for male children to secure her position in the family. That is why Pakistan has high still birth rate of 32 per 1000 which is more common in uneducated women (McClure et al., 2011).

Education empowers women and keep her aware of types and importance of modern MHC services ((Hazarika, 2011). There is robust relationship between education of the mother and maternal health care facilities (Long, Zhang, Xu, Tang, & Hemminki, 2010). It is viewed that 90 % of the women provided urine sample for testing with higher education relative to 43% of women who provided urine sample having no education. By the same

token, 90% of women with more than a secondary education are more likely to receive assistance from a skilled health care provider at the time of birth as compared to 38 % of uneducated mothers (NIPS, 2013).

2.1.2 Wealth index

It is found that domestic economic status of household/family acts as a most important determinant in influencing health care behavior. Mothers having well-off households were significantly more inclined towards utilization of modern antenatal care, formal delivery, and postpartum care relative to mothers with poor economic status of their households. Proper education and improved wealth status can have reinforcing impact on the maternal healthcare utilization (Amin, Shah, & Becker, 2010).

It is argued that population with low wealth index faces worse health care services and outcomes than the better off population especially in developing countries. It is found that poor people use less health care services, and have less satisfactory health-related behavior with respect to other determinants of health status. The disparity in utilization of health care services and nutritional facilities is mostly due to inequitable distribution of economic resources within developing countries (Gwatkin et al., 2007).

It is viewed socio-economic reasons affect the decision of utilizing of antenatal care services among women of reproductive age in Karachi. The analysis revealed that women from higher income group were twice likely to receive/take antenatal care than women with lower income group. Education didn't show impressive association with receiving antenatal care, because sample has only 25% literate women. Overall, the knowledge regarding antenatal care and nutritional needs was greater among women who utilized antenatal care as compare to those who didn't take it (Nisar & White, 2003).

Haq & Arshad, 2007 studied the impact of poverty on limiting the access of family generally and women particularly to receive maternal health care services in different regions of Pakistan. ANC, delivery at hospital, postnatal care (PNC) and utilization of Family Planning Services (FPS) are used as intervening variable to assess the situation of MHC services. Women especially from rural areas and lower economic status have prioritized home delivery over the institutional delivery. Women with higher economic status utilized health facilities from private health care centers whereas majority of women from middle class received health facilities from public hospitals or clinics.

Mahmood & Bashir, 2012 introspected the equity among married women on the utilization and availability of health care facilities. Wealth and other socio-economic factors play important role in causing health care discrepancy especially in access to private and public health care services. The results manifested inequality in access to MHC services. Educational level of women showed monotonic relationship with Antenatal care and institutional delivery. Women educational achievement has strong effect in getting MHC services. Overall, the result supports previous evidence that women with less education, low economic status and rural background face bigger barriers in accessing antenatal care and delivery care in comparison with educated women who have higher economic status and living urban background.

2.1.3 Socio-cultural factors

The empowerment and autonomy of women have been considered a dynamic factor in utilizing health care services. Studies conducted in India so far have revealed that women who have more freedom in choices and movement had more skilled birth attendants at time of delivery ((Bloom, Wypij, & Gupta, 2001). By the same token, Pakistan like other south

Asian states, has predominantly patriarchal society; Hence, autonomy of women is very restrained. They cannot move outside the four walls of home without taken permission from their male counterpart. Therefore, most of the decisions regarding maternal health, especially family planning is taken either by mother-in-law or husband. This argument is supported by a study conducted in Nepal which has identified mother-in-law a main decision maker and most of the time she has negative thoughts with respect to family planning and reproductive health care ((Simkhada, Porter, & Van Teijlingen, 2010). A study in Pakistan has identified that women with more autonomy have higher rate of ANC visits and health facility delivery (Agha & Carton, 2011).

Ali, Bhatti, & Kuroiwa, 2008 investigated the important factors constraining the access of women to urgent obstetric services. The analysis showed that poor infrastructure of hospital, high staff absenteeism & geographical hurdles like distance and time to reach the facility cause many maternal deaths. Cultural barriers such as absence of female doctors; delayed access and unavailability of human capital also put in danger the life of mothers.

The effect of household women's position on maternal health care utilization was examined in Nigeria. The study investigated that empowerment of woman and her symmetrical control over financial resources contributes significantly in utilization of MHC serviecs. The study suggested that women who worked in public sphere were more aware and sensitize towards health care benefits as compared to the women who did work. Similarly, women who did not allow physical violence/abuse against themselves by their intimate partner, within family or outside the family, were also more likely to receive prenatal and delivery car (Fawole & Adeoye, 2015).

A research study identified the risk factors linked with maternal mortality happen in sixteen rural districts of Balochistan and KPK in Pakistan. The study suggested that distance to hospitals and the unavailability of antennal care play important part in maternal mortality. It is argued that women who had previously suffered from pregnancy losses were more cautious about utilizing MHC services (Midhet, Becker, & Berendes, 1998).

Pakistani society provides an ideal opportunity to organize a case study of social exclusion and gendered barriers to utilizing of maternal health care services. Women access to maternal health care is constrained by so many important factors such as age, education, wealth index, types of residence, size of the household, distance etc, but one factor that super passes all these factors is gender. Gender makes woman vulnerable in the presence of male social dominance where she cannot decide for and get access to fundamental right called Health. Most of the times, she is denied the entitlement of rights based on class, caste, religion, ethnicity and other social identities (Mumtaz, Salway, Shanner, Bhatti, & Laing, 2011).

It is viewed that unintentional pregnancies (including unwanted or mistimed pregnancies) are important public health problem that causes to morbidity and mortality among women of reproductive age at world level. Globally, it is estimated that 4 out of 10 pregnancies are unintended, with half of these pregnancies end up in induced abortions. Most of these unwanted/unintended pregnancies do happen in underdeveloped and developing countries, including Pakistan. It is claimed that in Pakistan, approximately 37% of all pregnancies among women of reproductive age (15–49 years) are unintended Irrespective of the fact whether these unwanted/unintended pregnancies are carried to term or end up in an induced abortion. Moreover, this phenomenon has significant impact on maternal and infant health.

These impacts can be more severe in countries where induced abortion is proclaimed illegal and considered morally wrong, including Pakistan except where a pregnancy put in a woman to significant mortality risk due to honor/shame schema social constructed in our society. Insecure abortion is one of the main causes behind maternal mortality worldwide (Zakar, Nasrullah, Zakar, & Ali, 2016).

Female illiteracy, gender inequality, political challenges and extremism in the form of violence contribute to poor performance of Pakistan in reducing RMNCH. Further, less than 1% of GDP of Pakistan's economy is reserved to the public health sector. This kind of expenditure on health sector is surely not satisfactory, even if compare to neighboring countries with relatively poorer economic indicators. Notwithstanding, despite unsatisfactory performance on the home front, Pakistani health community, especially researchers in RMNCH have contributed splendidly to the global knowledge, theory and experiment in this field (Ghaffar, Pongponich, Ghaffar, & Mehmood, 2015).

The data on child mortality pertaining to PDHS 2006–7 narrated that diarrhea (27%) and pneumonia (26%) are the key reasons of death during the postnatal period. Deaths caused from both diarrhea and pneumonia are closely related to intersection risk determinants such as poverty, unsatisfactory hygiene situation, under-nutrition, and deprived home environments, making children more expose and vulnerable to above diseases. Despite of increase in care-seeking measures from 48% in 1990 to 61% in 2013, the pervasiveness of diarrhea has increased from 15% to 23% in that period in Pakistan. Over the last two decades, there has been no success in decreasing the commoness of pneumonia and it has been remaining almost constant (Rizvi, Bhatti, Das, & Bhutta, 2015).

Intimate partner violence (IPV) comes in the ambit of gender and violence, is happening frequently in Pakistan. It is claimed that approximately 40 % of ever-married women of reproductive age suffered in some form of abuse and violence (Nasrullah & Xiang, 2008). Of those women who suffer in intimate partner abuse, nearly 32 % of women have faced lifetime physical violence, and 19 % of women confronted physical violence in the last 12 months (Zakar, Zakar, Mikolajczyk, & Krämer, 2012). It is also observed that among women who faced physical violence, approximately 11 % of them were pregnant. In most of the IPV cases, Husbands were perpetrator in 79 % of the violent cases where majority of the victims were being socially marginalized i.e. uneducated and living in rural areas of Pakistan (NIPS, 2013).

It is argued that Intimate partner violence (IPV) put women in extreme position of vulnerability during pregnancy (Deuba et al, 2106). Intimate partner violence during period of pregnancy may have adverse physical and psychological health outcomes like substance abuse, fetal distress, premature birth, preeclampsia, before birth hemorrhage, low birth weight, postnatal depression and risk of maternal mortality and fetus (Ludermir, Lewis, Valongueiro, de Araújo, & Araya, 2010). A study conducted at an urban hospital in Kathmandu among 950 urban pregnant women indicated that 33 % of the pregnant women had faced various forms of violence (psycbological, physical and sexual abuse) (Chaudhary, 2007). Previous research studies identified that there are different social-cultural (like preference to birth of male child), economic and religious determinants are responsible for promoting high IPV prevalence (Puri, 2009).

These studies observed that There is strong association between birth order and utilizing maternal and child health care services (Nigussie, Mariam, & Mitike, 2004; Govindasamy

& Ramesh, 1997). It is observed that many number of children may limit the household's resources which have negative impact on utilizing maternal and child health care services (Wong, Popkin, Guilkey, & Akin, 1987). A large familial setup also put more pressure on woman and makes her unable in managing the time that limits her ability to seek health care (Chakraborty, Islam, Chowdhury, Bari, & Akhter, 2003).

The location, quality and availability of facilities are also important determinants influencing access and utilizing MHC services. Many people avoid seeking health care due to lack of and cost of transportation, and territorial space from health care centers. On other hand, many people avoid health care because of the services of low quality, unprofessional behavior from health staffs (Nigussie, Mariam, & Mitike, 2004; (Chakraborty, Islam, Chowdhury, Bari, & Akhter, 2003).

It is argued that use of antenatal care, post-natal care and family planning can decrease maternal mortality. The findings recommended that women from rural areas do feedback to those policies that eradicate the financial and physical hurdles to access the MHC services. It is also viewed that provision or absence of transportation paly important part in use of antenatal care. The Household's wealth, education of mother and exposure to mass media have significant impact on utilization of postnatal care services. Edification of husband and approval of family planning were the most important catalysts for the utilization of family planning services (Agha & Carton, 2011).

The Cambodian national health program revealed that instead of high desire of skilled birth attendants (SBA), cost and distance to appropriate facilities restricted the access of women to delivery care. A continuous propensity is seen among younger women with higher

income status use skilled birth attendant more frequently, while traditional birth attendants (TBAs) are mostly used by old aged and poorer women because they know them very well and are nearer to home (Connell, 2011).

A study conducted in Krong Kep province, Cambodia revealed that unavailability of quality services, lack of resources and distance to health care centers in the rural areas may be associated with continued use of traditional birthing practices and medicine (Montesanti, 2011). Moreover, cultural practices, attitudes and beliefs have important say at time of pregnancy and childbirth. These kinds of practices are important not only because of the reason that women feel affiliation and identification to their culture, but because such ideologies/thinking embedded in cultural orientation permit women to understand their maternal experiences and to care of their health when alternatives health care treatments are constrained by their economic conditions (Prusty, Buoy, Kumar, & Pradhan, 2015).

Westeneng, 2008 studied Indonesian Family Life Survey and examined the complex relationship between maternal well-being and poverty. This study argues that stillbirths and miscarriages have always been neglected whereas infant mortality has always been the center of attention. The research study demonstrates that maternal mortality indicating loss of human capital and ill health is costly not only at level of household but at community level also. Poverty raises the vulnerability in the life of people whether it is income poverty or educational poverty or bad living standard and lack of better quality health institutes.

The community based study conducted so far in Iran, intended to show the commonness of maternal morbidities and the health seeking behavior among women of reproductive age. The findings of the study highlighted that three most common morbidities with high

frequency persist in women of reproductive age, are: Menstrual problems, pelvic organ prolapsed and reproductive tract infections. It is also found that 79.4 percent of the women of reproductive age (15-49 years) have at least one of these symptoms (Tehrani, Simbar, & Abedini, 2011).

2.2 Obstetrics factors

The obstetric factors in maternal health care are ANC, delivery care and postnatal care. The following reviews analyses the factors which contribute or limit the access of women generally and mother particularly to get maternal health care services.

2.2.1 Antenatal care

Antenatal care (ANC) services play significant role in promoting maternal and child health, as it helps to present opportunities in identification of circumstances that enhances threats of severe pregnancy outcomes. It also gives a wide level of preventive and remedial health measures and develops provider-client relationship (Campbell, Graham & Group, 2006; (Mbuagbaw et al., 2014). Research studies have found that those women who take antenatal care services have more tendency to seek skilled birth attendants (SBA during delivery as compared to those who less likely to receive ANC services, the interference has significant effect on maternal and perinatal death ratio (Guliani, Sepehri, & Serieux, 2012).

It is indorsed by WHO that women should intake a primary set of health services that incorporate tetanus toxoid vaccination, blood pressure measurement, urine test, measurement of body weight, iron folate addition and counseling about danger symptoms. The World health organization also suggested that women having no complications during

pregnancy should get four antenatal care visits before 14 weeks' gestation (Villar, Bergsjo, Carroli, & Gulmezoglu, 2003).

Over the last two decades, there has been significantly great improvement in the ANC services in Pakistan. The women's percentage having at least one antenatal care visit at time of pregnancy increased from 26% to 78% till 1990-91 to 2012-13. However, PDHS 2006-07 pointed out that only 17% of women received six elements of care among women who receive ANC that should be given during an ANC visit. On the other hand, it is argued that in PDHS 2012-13 that intake of ANC supplements increased with course of time as 28 % of women who had an antenatal care visit, gained these six supplements of care (NIPS, 2013).

A Study conducted by Agha & Tappis, 2016 titled "the timing of antenatal care initiation and content of care in Sindh, Pakistan" revealed that 87 percent of the women had gained at least once antenatal care checkup in Sindh. The coverage of antenatal care was substantial (70%), even among women with low wealth index. The high rate of newly born child death rate or the slow progress of reducing maternal mortality don't correspondence to the coverage of antenatal care in Pakistan. This may because coverage of ANC be itself does not guess the content of prenatal care given to women at time of pregnancy (Hodgins & D'Agostino, 2014).

This study pointed out the effectiveness of first antenatal care checkup is a magnificent predictor of content of the services. Pregnant women were more likely to receive antenatal care services during pregnancy suggested by WHO, who have gained their first antenatal care checkup within 3 months of becoming pregnant. It is also insisted that the ANC coverage is influenced largely by the discrepancies in income status, education attainment

and equivalency in the timing of first antenatal care visit. The outcomes of the study indicated that to keep women inform of early antenatal care checkup is likely to enhance their opportunities of acquiring antenatal care proposed by World health organization (Agha & Tappis, 2016).

Various studies have demonstrated that situation of maternal and child health is unsatisfactory and poor in Punjab (Majrooh, Hasnain, Akram, Siddiqui, & Memon, 2014). It is argued that only 25% of women use antenatal care services available in public sector in Punjab (Pakistan Statistical Year Book, 2007). With respect to this, 50% of the women getting ANC reported were dissatisfied with the services available in public health sector. Along with inadequate health facilities, women are facing socio-economic issues like having not part in decision making, transport and attitude of staff delivering services (Majrooh et al., 2013).

There is substantial evidence persisted for provision of adequate antenatal care services in decreasing risks relative to pregnancy and health of mother and child at time of birth. Insufficient antenatal care has antagonistic obstetrical effects like perinatal mortality, low birth weight, preterm delivery, risks of surgical delivery, neonatal hospitalization rate and maternal anemia postnatal are linked along with other factors (Beguin et al., 1996; Lee et al., 2000; Simoes, Kunz, Bosing-Schwenkglenks, & Schmahl, 2005).

Woman having unintended pregnancy is a significant public health issue. This issue predisposes women to maternal morbidity and mortality mainly through unhygienic/unsafe abortions and unsatisfactory care of maternity. It is linked with late provision and not enough utilization of ANC services (Schmiege & Russo, 2005). A study conducted on prevalence and factors of unintended pregnancy in east Ethiopia revealed that variables

significantly attached with unintended pregnancy were, perceiving oneself as not fertile, marital status, parity and less knowledge of awareness of contraceptive methods among pregnant women (Mohammed, Musa, & Amano, 2016).

2.2.2 Delivery care

Delivery care has two significant indicators; Place of delivery and more importantly delivery care by skilled birth attendant at the time of birth. Delivery care given by a skilled health care provider at the time of delivery like skilled birth attendance (SBA) and institutionalized place of delivery are identified as the most crucial determinants to reduce maternal and neonatal mortality. The existence of a skilled birth attendant at the time birth decreases the risk of complications which causing death and averts the risk of postpartum hemorrhage. Globally, these are considered as the major causes of maternal mortality (Organization, 2010; Tawiah, 2007).

Sub-Saharan African countries have the world's largest weightage of maternal mortality (56%,), (Organization, 2012) yet it has only 12% of population of the world and 17% of all live births in the world. The United Nations presented Millennium Development Goals Report in 2014 which read that majority of the maternal deaths did happen in Sub-Saharan Africa (62%) and Southern Asia (24%) in 2013 (Nation, 2014).

A research study organized in Makueni, Kenya pointed out the fact that like in many African countries, Kenya has too severe maternal health situation and high maternal mortality ratio, consist of 488 out of 100,000 live births. Over a decade, the proportion of skilled birth attendances have remained less than 50% such as 44% in 2008/09, 42% in 2003 and 45% in 1998 reported in Kenya's DHS-2012. It lags to provide 90% of skilled birth attendants at the time of birth in the country corresponding to target 5 of MDGs by

2015. Kenya confronts various challenges in reducing maternal mortality including: not enough skilled health care provider at health care centers, lack or absence of primary, important and equipped urgency obstetrics care services in most of public health care centers especially in rural areas, meager infrastructure, insufficient provision of financial resources, highly poor economic conditions as well as shortage of awareness among mothers (Gitimu et al., 2015).

Community based programs/surveys for enhancing skilled birth attendants at time of birth, decreasing neonatal and maternal mortality have been initiated in many developing states like Sri Lanka, India, Indonesia and African countries. Progress of these programs were depended on various factors like a well-equipped health system, strong coordination systems, provision of transportation and emergency assessing services. Maternal mortality can be reduced by initiating Midwifery programs through increased number of skilled birth attendants (Gunathunga & Fernando, 2010; Makowiecka, Achadi, Izati, & Ronsmans, 2007). A report on World's Midwifery has highlighted the fact that to monitor high number of pregnancies, many of underdeveloped countries do not possess sufficient number of skilled midwives and birth attendants at the time of delivery that contributes to 15 % of obstetric complications (ten Hoope-Bender, Campbell, Fauveau, & Matthews, 2011).

Pakistan has been facing challenges in improving neonatal and maternal health situation, particularly in less developed and remote areas. Many programs have been introduced including improving network of health infrastructure, thousands of basic level health care centers in most part of the country and community based health workers to provide child and maternal health care, especially in rural areas (Butta, Z.A. 2004). On the other hand, the expected effect of skilled birth attendants in rural sector has not been gained so much

in delivery care. The analysis of PDHS 1991 and 2006 shows that more than 50 percent of the women prefer to call a traditional birth attendant (TBA's) for assistance at time of delivery as compared to a skilled birth attendant (Organization, 2010). Of all the births in country, Skilled Birth Attendants handle 39 percent of births and 34% of the births happen in a health facility (Graham, Bell, & Bullough, 2001).

Recently, the government of Pakistan revised its policy/program to bring progressive change in maternal and new-born health situation by introducing a new group of community based skilled birth attendants, referred as community midwives (CMWs). This group is trained enough to conduct deliveries at home (Sarfraz & Hamid, 2014). This program is focusing on to enhance skilled birth attendants in rural and deprived urban slums of the country along with cementing health system to obstetric care services on urgent basis. It also aspired to deploy 12,000 community based midwives per their place of residence by the year 2012. Irrespective of spending magnificent funding on these programs, household surveys at national level (Social, 2005). Research studies conducted in many rural areas of Pakistan recommends that progress is still slow and maternal health care's indicators have not showed significant improvements so far by the implementation of community Midwives program (Khan, et al., 2012).

A research study organized in rural tehsil of the district Attock (northern Punjab) pointed out the issues confronted by Community based midwives while giving MHC services. The study also recommended that burden of maternal morbidity can be reduced and significant positive impacts can be achieved by bringing improvements in the structure of CMWs work. However, the improvements can only be possible in Pakistan when maternal and neonatal health care program and public health system take necessary actions to bring

progress in the current scenario. The training curriculum of CMWs should be revise to sensitize more the rural communities on the services offered by community midwives. The communication and interaction skills of the community midwives should be strengthened and should also build an innovative mechanism for making continue services of CMWs in the community. This goal might be perceived if career path of community midwives is defined and developed so that it could work as motivational factor in their career (Sarfraz & Hamid, 2014).

It is estimated that 1000 women die eacb day from pregnancy relevant causes at world level. 99 percent of these deaths happen in developing countries and more than 50% of deaths happen in sub-Saharan African countries (Organization, 2008). It is argued that most of the deaths happen around the delivery time. In developing countries, A major chunk of mothers still deliver babies at home unattended by skilled birth attendants (Gabrysch & Campbell, 2009). The interplay of individual factors like mother's age, education, familial income index, family size, marital status, parity with community factors such as community health infrastructure, socio-economic conditions of community, play of residence, availability of health facilities and distance to health care providing centers decides the place of delivery (Stephenson, Baschieri, Clements, Hennink, & Madise, 2006; Say & Raine, 2007).

Agha & Carton, 2011 disclosed factors associated with institutional delivery while conducting research in rural Jhang, Pakistan. He argued that institutional delivery is affected dramatically by mother's age, education of mother, household's income status, exposure to media, autonomy of women, health care worker visits during last 12 months of women of reproductive age and mode of transportation to nearby health facility. These

arguments are cemented by statistical figures such as 33% of the women with no education had last delivery at health facility as compared to 48% of women who had completed their primary education and 73% of women with matric or higher education had last institutionalized delivery. Similarly, 29% of the women having lowest wealth index had last delivery at hospital facility with respect to 39% of women having average income status and 61% of the women having high income status had last institutionalized delivery. 58% of the women had their last institutionalized delivery who have weekly mass media exposure than 36% of the women are less exposed to mass media. By the same token, 38% of the women had institutionalized delivery who visited nearby health care center on foot in comparison with 49% of women who visited nearby health care center on some mode of transportation.

2.2.3 Postnatal care

The postnatal period refers to "time immediately after the birth of the infant and up to six weeks (42 days)". Postnatal period has significant position in the life of mother and newborn. Immediately after birth, life of the mother prone to greatest threat due to bleeding and infection while newborn's life face critical conditions due to preterm birth, asphyxia and sever infections (Organization, 2010; Organization, 1998). Two third of neonatal deaths happen due to such complication. On the other hand, inappropriate feeding practices embedded cultural orientation during the postnatal period may put further threats to the newborn's life (Osrin et al., 2002).

The postnatal care's timing plays important role in the wellbeing of newborn and mother. It is shown in the earlier international research studies that some 40 % of neonatal deaths and 50% of maternal deaths happen within 24 hours after birth, recognized as "immediate

postnatal period" (Nabukera et al., 2006). World health organization suggested that mothers should take postnatal care with in the first 24 hours, followed by postnatal checkup on the second or third day and then on the seven days after delivery (Organization, 2010). In addition, postpartum care provides opportunity to skilled health care providers to enhance exclusive breastfeeding, appropriate feeding practices, personal hygiene, and counselling of family planning. Moreover, postnatal care facilitates to provide postnatal vitamin A and supplementation of iron to the mothers after delivery and of newborn's immunization (Organization, 2010).

It is argued that a new mother has an ideal opportunity to know during postnatal care visits that how to take care of herself and her newborn child (NIPS, 2013). It is indicated in PDHS 2012-13 that 60% of women got postpartum care for their last birth within the first two days of delivery. Similarly, 1% of the women got postpartum care on the third day or later after delivery. women with postpartum visits, 54% of the women got postpartum care within 4 hours of the delivery, 5% of the women got postpartum care within the first 4 to 23 hours, and 2% of women got postnatal care within 1-2 days after delivery. Overall, 38% of the women did not visit health care provider in postpartum period.

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A research study was conducted on digging out the factors influencing the utilization of postnatal care services in Pakistan. The study pointed out some significant socio-demographic and economic variables/factors like age of women, education, economic status, household order, classification of residence (urban/rural), region, birth order, antenatal care utilization and the timing of PNC visits are responsible for PNC in Pakistan (Yunus et al., 2013).

The comparatively analysis of PNC in different regions in Pakistan recommended that mothers and babies in Sindh have highest utilization of PNC than Balochsistan. It is also viewed that first postnatal checkup utilization is higher in Punjab and lowest in Balochistan. while frequency of 2 & 3 postnatal care is higher in Sindh. The history of Obstetric complications is more adverse in Sindh than Balochistan and Utilization of PNC of child and mother is more prevalent in rural areas. Number of Postnal checkup visits are higher among rural females in comparison with urban females, with more critical complications (Fort, Kothari, & Abderrahim, 2006). Postnatal checkup visits are higher in mother's age group (15-29) as compared to mother's age group 45 & above and same is the case with PNC of baby (Shariff and Singh, 2002). The utilization of PNC was observed more in uneducated sample of women with more number of complications (Mumtaz, Salway, Shanner, Zaman, & Laing, 2012).

There are some significant factors considered to be strongly attached with utilization of PNC like people with rich economic status had a higher tendency utilization of PNC and observed less complications as compared to people with poorest economic backround (Mumtaz, Salway, Shanner, Zaman, & Laing, 2012). Those sample (of women) who have means of transportation have higher level of PNC utilization. Women with birth order 2-3 have more utilization of PNC while utilization of PNC decreases with birth order 7 and more (Shariff & Singh, 2002). Programmatic determinants had relatively less influence on a woman's decision to visit postnatal health care provider. The exposure to media was the only determinant that had impact on woman's PNC visit (Agha & Carton, 2011; Organization, 2005).

Chapter Three

Research Methodology

3.1 Introduction

In the previous chapter, a comprehensive glance of theoretical framework and literature review has been given to argumentatively support this study. In this chapter, methodological steps to conduct this study has been discussed. It also gives details of procedure and methods that how data was accessed, funneled and analyzed. The research was carried out by using quantitative methodology. The study is based on demographic health survey at national level conducted by national institute of population studies (NIPS) titled "Pakistan demographic and health survey 2012-13". These kinds of surveys are conducted in many countries to assess demographic transition, and indicators of maternal and child health. The primary objective is to provide updated and authentic data to policy makers and program organizers to enhance wellbeing of mothers and their children. The target of population in this study is assessing maternal and child health care in Balochistan and its comparison with other regions in Pakistan. Balochistan, geographically is the largest province of Pakistan. It covers an area of 347,190 Sq, Kms., consist of 43.6% of the total area of Pakistan. The population of Balochistan is 20 million (via census of 1998), having a low density per square kilometer in comparison with other provinces of Pakistan. It has 31 districts. This study was conducted to examine the determinants of maternal health care in Balochistan with the help of conducting secondary analysis of Pakistan Demographic and Health Survey 2012-13. This study was based on information collected from demographic health survey to explore that how different determinants affect the attitudes and access of women to maternal health care in Balochistan.

To understand the mechanism of Secondary analysis, it is important to discuss the process of Pakistan demographic and health survey 2012-13.

3.2 Pakistan demographic health survey 2012-13

Pakistan Demographic and Health Survey (PDHS) 2012-13 is the third survey conducted so far in Pakistan under the umbrella of "Global Demographic and Health Survey (DHS)" program. The earlier two surveys were conducted in 1990-91 and 2006-07. The DHS surveys are conducted to collect data about demographic, maternal and child health indicators with the purpose of providing reliable and updated information for policymakers and program managers. The PDHS 2012-13 specifically collected information about knowledge and practice of fertility levels, family planning, fertility preferences, marriage, nutritional status of children and women, child feeding practices, maternal and child health, neonatal and maternal mortality, awareness and attitudes regarding HIV/AIDS, knowledge about other illnesses (e.g., tuberculosis, hepatitis B and C), and domestic violence. Data was mainly collected from ever-married women (15-49 years) on the above-mentioned topics; however, some of the data was also collected from ever-married men. The collected data will provide a database for evaluation of relevant ongoing projects and can help policymakers in developing appropriate strategies and plans for future projects.

3.2.1 Objectives of the survey

The survey was designed with the broad objective of giving policymakers with data to monitor and evaluate programmatic interventions based on empirical evidence. The specific objectives of the survey are to:

i. Collect high-quality data on topics such as fertility levels and preferences, contraceptive use, maternal and child health, infant (and especially neonatal)

mortality levels, awareness regarding HIV/AIDS, and other indicators related to the Millennium Development Goals and the country's Poverty Reduction Strategy Paper.

ii. Investigate factors that affect maternal and neonatal morbidity and mortality (i.e., antenatal, delivery, and postnatal care)

iii. Provide information to address the evaluation needs of health and family planning program for evidence-based planning

iv. Provide guidelines to program managers and policymakers that will allow them to effectively plan and implement future interventions.

3.2.2 Organization of the survey

National institute of population studies (NIPS) was responsible for planning, organizing, and overseeing the survey operations, including hosting technical meetings; recruiting, training, and supervising fieldworkers and data processing staff; and writing this report. The Pakistan Bureau of Statistics (PBS) provided the sample design and household listings for the sampled areas across the country. The funding for the survey was provided by the United States Agency for International Development (USAID), while technical and logistical support was provided by ICF International through its MEASURE DHS project.

3.2.3 Survey implementation

3.2.3.1 Sample Design

The sample for the PDHS 2012-13 represents the population of Pakistan excluding Azad Jammu and Kashmir, FATA, and restricted military and protected areas. The universe comprised of all four provinces of Pakistan and Gilgit Baltistan with respect to urban and rural residence of respondents, defined as such in the Population Census of 1998. PBS

developed the urban area frame. All urban cities and towns are divided into mutually exclusive, small areas, known as enumeration blocks, that were identifiable with maps. Each enumeration block consists of about 200 to 250 households on average, and blocks are further grouped into low-, middle-, and high-income categories. The urban area with sampling frame consists of 26,543 enumeration blocks, updated through the economic census conducted in 2003. In rural areas, the population census of 1998 were used as sampling frame to design the lists of villages/mouzas/dehs. In this frame, each village/mouza/deh is recognizable by its name. urban areas in Balochistan, Islamabad, and Gilgit Baltistan, were oversampled and proportions were accommodated by applying sampling weights during the analysis.

It was estimated that a sample size of 14,000 households would provide precise and accurate data for the survey indicators. PBS staff members of 43 was trained by NIPS to gain fresh listings from 248 urban and 252 rural survey sample areas across the country. The household listing was carried out from August to December 2012. The selection of households was involved in second stage of sampling. At each sampling point, a systematic sampling technique with a random start was applied to select 28 households. This resulted in 14,000 households being selected (6,944 in urban areas and 7,056 in rural areas). The survey was carried out in a total of 498 areas. Due to adverse law and order situation, two areas of Balochistan province (Punjgur and Dera Bugti) were dropped in data collection process. Overall, 24 areas (mostly in Balochistan) were replaced, mainly because of their adverse law and order situation (PDHS, 2012-13).

3.2.3.2 Questionnaires

It was used four types of questionnaire in PDHS 2012-13: Household Questionnaire, Woman's Questionnaire, Man's Questionnaire, and Community Questionnaire. The contents of the Household, Woman's, and Man's Questionnaires were based on model questionnaires developed by the MEASURE DHS program. However, in consultation with a broad spectrum of research institutions, departments of government, local and international organizations, the questionnaires were modified to depict issues relevant to the Pakistani population, including migration status, family planning, domestic violence, HIV/AIDS, and maternal and child health.

3.2.3.3 Training

NIPS staff was responsible for doing considerable efforts to recruit people with the appropriate skills to work as field staff for the survey. Advertisements were placed in national and local newspapers across the country, and, after screening the applicants, NIPS staff visited different provincial headquarters and large cities to administer tests and interviews before selecting the final candidates. Almost all of those recruited were university graduates; three-quarters had a master's degree. for the 144 participants, NIPS organized a three-week long training course (during September and October 2012) in Islamabad. The training was conducted following the standard DHS procedures, which included class presentations, daily reviews, mock interviews, class exercises, and a written test at the end of the training.

3.2.3.3 Field work

A total of 20 teams were organized to collect data; each consisted of a supervisor, a field editor, one male interviewer, and three female interviewers. The teams were initially deployed around Islamabad and Rawalpindi to enable intense supervision and technical backstopping at an early stage. All the teams completed one field cluster and electronically transferred the data to the central office. Each day, a review session was organized to share the experiences of the team.

3.2.3.4 Data Processing

The processing of PDHS 2012-13 data began simultaneously with the fieldwork. Completed questionnaires were edited and data entry was carried out immediately in the field by the field editors. The Internet File Streaming System was used to transfer data from the field to the central office. The completed questionnaires were then returned periodically from the field to the NIPS office in Islamabad through a courier service, where the data were again edited and entered by data processing personnel specially trained for this task. Thus, all data were entered twice for 100 percent verification. The CSPro computer package was used to enter data. Moreover, the double entry of data enabled easy identification of errors and inconsistencies, which were resolved via comparisons with the paper questionnaire entries. In the first week of May 2013, the secondary editing of the data was completed.

3.3. Secondary Analysis

Secondary data analysis is totally different from primary data analysis where a researcher independently collects data and then analyze it. It refers to the practice of analyzing already

published or collected data by someone else, for distinctively different objective. It saves both time and money of a researcher. It also avoids unnecessary repetition of research efforts.

Prior to conduct a secondary analysis, it is important for a researcher to keep in mind these principles. A researcher should be familiar with the nature of data that how data collection process was accomplished, what the response categories are for each question, what is the study of population and so. There are various government sources of secondary quantitative data, including such materials as Census data, Health data, Educational statistics, Housing records, Immigration statistics (Crossman, A).

3.4 Patterns of Secondary Data Analysis Used in Previous Research Studies

The following five research studies are mentioned to explain the patterns of methodology used in secondary data analysis owing to the procedural requirement during study.

Khan et al., 2015 conducted a research study titled "Burden of water pipe smoking and chewing tobacco use among women of reproductive age group using data from Pakistan demographic health survey 2012-13". The sampling frame of the study was respondents from Gilgit Baltistan and urban/rural regions of four provinces. The target of population was ever married women aged 15-49, residence of Pakistan excluding FATA and AJK. Data was collected from ever married women aged 15 and 49 years by using women questionnaire. A help was taken from model questionnaire that was made by the "MEASURE DHS" program, to develop the content of household women's questionnaire. Some changes were recommended by public and private sector organization to assess the issues in indigenous context. To obtain accurate data in systematic manner, the final

questionnaire was further translated in regional languages. National institute of population followed all ethical considerations proposed in "MEASURE DHS" program. In the analysis of data, univariate and multivariate logistic regression were applied to find out the association between the covariates and outcomes variables. After the analysis, results were presented and discussed by giving precise conclusion.

The subsequent research study using secondary data analysis is, "Under-Five Child Mortality and Morbidity Associated with Consanguineous Child Marriage in Pakistan: Retrospective Analysis using Pakistan Demographic and health Surveys, 1990–91, 2006–07, 2012–13" (Mustafa, Zakar, Zakar, Chaudhry, & Nasrullah, 2017). The sample of the study was collected from PDHS 2012-13, 2006-07 and 1990-91 saved in file named "Birth record" which was download from the official DHS website [Demographic and health survey (DHS) program 2014]. It was not required to get ethical approval from respective/concerned institution due to availability of the data publicly database MACRO Demographic and health surveys. In analysis of study, measures were demographic factors such as child's sex, current child's age, region of respondents, type of residence, mother's age at first birth, education level of the mother, wealth profile and ethnicity. In this study, three variables like child mortality, morbidity and SSB infant were applied to measure child health outcomes. A descriptive analysis was performed to gauge the absolute number of responses and weighted percentages. The significance between the maternal/child demographics and CCM as compared to non-CCM was measured by applying Student's t test for continuous variables and Pearson's chi square test (X2) for categorical variables. Binary logistic regression models were used to measure the associations between child

health indicators and CCM. After the analysis of data, results were found out and discussed with presenting conclusion of the study.

Chowdhury, 2009 conducted a research study titled as "The effect of antenatal care on infant malnutrition in Bangladesh: Secondary Analysis of Demographic and Health Survey data". The data was collected from Bangladesh Demographic and Health Survey-2004. The questionnaires were well structured by DHS to perceive easily by eligible household's members. women having infants aged under 12 months were taken as sub sample. The association between antenatal care and infant malnutrition was identified by analyzing socio-economic and demographic data from that sub sample. When the registration process at DHS website was completed then data was accessed. Explanatory and outcomes are the two measuring variables in this study. Child growth is influenced by explanatory variables which include maternal, socio-economic and demographic factors. Antenatal cate seems to have significant effect on growth of child. In the analysis of this study, maternal age, education and economic status were important variables which have good impact on nutritional conditions of child. Stunting (chronic malnutrition) and wasting (acute malnutrition) were identified two outcome variables to determine the infant malnutrition. To access the data, A consent was taken by sending formal request to DHS committee through DHS website. To find out frequency and percentages of background factors and association of ANC, descriptive analysis was used. Cross tabulation with chi-square test was used to examine the relation among stunting, wasting and each of the independent variables.

Montgomery et al., 2014 conducted a research study titled as "The Effect of Health Facility Admission and Skilled Birth Attendant Coverage on Maternal Survival in India". This

study was designed to see admission of health facility in hospitals at the time of pregnancy, delivery, maternal mortality cases and women who survived. A help was taken from national representative population survey based on mortality, called as million death study (MDS) of India. A health survey at district was used to identify controls. All married women aged 15-44 years were target of the population from nationally representative sample of households in this study and they were asked about maternal and child health. Covariates were distributed on individual, district and state level in this study. Bivariate analysis was applied to compare admission of health facility in cases and controls on individual, district and state level. This study was approved to follow ethical standards given by concerned authorities.

Here is another research study demonstrating the practice of using secondary data analysis, titles as "Determinants of Inappropriate Complementary Feeding Practices in Young Children in Sri Lanka: Secondary Analysis of Sri Lanka Demographic and Health Survey 2006-07" conducted by (Senarath, Godakandage, Jayawickrama, Siriwardena, & Dibley, 2012). Data was collected from Sri Lankan DHS 2006-07. Cluster sample of stratified two-stage design was used to gathered data from 20 districts (excluding the northern province because of prevailing adverse law and order situation). In the first stage, 2106 clusters were selected comprising three strata of 430 from urban, 1479 clusters were selected in rural areas and 197 clusters were selected from tea estate sector. Systematic sampling technique was used to in the second stage to select 10 houses units from each cluster. Questionnaire was used to interview all ever-married women 15-49 years living in the households (n=14652). Special approval was taken from the Department of Census and Statistics, Sri

Lanka to evaluate and present data. In the statistical analysis, multiple logistic regression was used to find out the causes significantly linked with inappropriate feeding practices.

3.5 Secondary Data Analysis Model of the Current Study

The following steps were taken in secondary data analysis for the study keeping in view the patterns used in previous research studies.

i. Data Source/Acquisition

The researcher personally visited National Institute of Population Studies, Islamabad and acquired the data "Pakistan demographic and health survey 2012-13" in SPSS form from NIPS Lab's official by getting permission from the Director NIPS.

ii. Data Cleaning and Variable Selection

The Global Demographic and health survey program has been conducting surveys in many countries on maternal and child health care. Pakistan Demographic and Health Survey (PDHS) 2012-13 is a third survey conducted so far under this project. This survey particularly collected data to know about the trends and practices of family planning, marriage, fertility preferences, fertility levels, practices of child feeding, nutritional status of children and women, child health, neonatal and maternal mortality, sensitization and attitudes of women particularly regarding HIV/AIDS, knowledge about other illnesses (e.g., tuberculosis, hepatitis B and C), and domestic violence. Due to the subject matter and requirement of the current research study, the data was funneled and only those variables were selected who were relevant to and satisfying nature of the study "Maternal Health

Care in Balochistan". The selected variables were covering up the demographic, socio-economic and obstetrics profile of respondents in Balochistan.

iii. Study of the Population (Target of population)

The target of population in this study, was ever married women aged 15-49 years and sampling frame is consisted upon respondents from the urban and rural areas of Balochistan.

iv. Statistical Analysis

In part one, univariate descriptive analysis was employed to gauge and find out the frequencies/percentages of background factors and its association with maternal health care in Balochistan and its comparison with other provinces in Pakistan. Part two consists upon bivariate analysis, using crosstabulation technique and Chi-square to see the relationship between independent variables (educational attainments, total children ever born and financial status of the respondents) and dependent variable (antenatal care).

Ethical Measure

Ethical standards were followed by getting special permission from Director of National Institute of Population Studies, Islamabad to use the data purely for research purposes.

Chapter Four

Data Analysis

4.1 Introduction

This chapter deals with discussion and analysis of data. It is comprised of two parts. Parts one deals with univariate descriptive analysis of demographic, socio-economic and obstetric profile of the respondents. Part two consists upon bivariate analysis, using crosstabulation technique and Chi-square to see the relationship between independent variables (educational attainments, total children ever born and financial status of the respondents) and dependent variable (antenatal care).

Part One: Univariate Descriptive Analysis of the Data

Demographic and Socio-economic Profile of the Respondents (from Table 4.1 to 4.9)

Table 4.1. Age and Education of the Respondents with Respect to Residence

Variable	Baluchistan Urban		Baluchistan rural		Total
	Frequency	Percentage	Frequency	Percentage	
Respondent's Age					
15-21	54	1.40	7 8	1.81	132
22-28	581	15.14	725	16.87	1306
29-35	1089	28.38	1318	30.67	2407
36-42	1093	28.49	1302	30.30	2395
43-49	1021	3.76	874	20.33	1895
Total	3836	100.0	4297	100.0	8133
Education in single years					
0	3044	79.35	3917	91.15	6961
1-5	273	7.11	229	5.32	502
6-8	157	4.09	32	0.74	189
9-10	180	4.69	83	1.93	263
11-16	182	4.74	36	0.83	218
Total	3836	100.0	4297	100.0	8133
Educational attainment					
No education	3044	79.35	3917	91.15	6961
Incomplete primary	79	2.05	81	1.88	160
Complete primary	194	5.05	148	3.44	342
Incomplete secondary	162	4.22	34	0.79	196
Complete secondary	175	4.56	81	1.88	256
Higher	182	4.76	36	0.83	218
Total	3836	100.0	4297	100.0	8133

Table 4.1 discusses variables indicating the respondent's age, education in single years and education attainments with respect to residence in Balochistan. The data in this table shown that most of the respondents accommodated in the age cohort 29 to 49 comprising Balochistan urban (80.63%) and rural (81.30%) respectively. There are several research studies which identify the correlation between age of the mother and utilizing MHC services which argues that mothers having age group 25 to 35 years utilize more antenatal care services and skilled attendants as compared to mother's group 35 to 44 years. while

those of 15 to 24 years show the least utilization of MHC services (Chubike & Constance, 2013).

The second variable reflected the educational status of respondents codified as "education in singles years and educational attainments" with respect to residence in Balochistan. The data in this table revealed that majority of the respondents in Baluchistan, mostly from rural areas 3917 (91.15%) than urban areas 3044 (79.35%) have no education at all. Subsequently, some of the respondents completed their primary education (5.05%, 3.44%) and secondary education (4.56%, 1.88%) from Balochistan urban and rural respectively. The findings of the table suggested that respondents in Balochistan rural are lagging then urban areas in completing their primary and secondary education.

Education empowers woman and give her ability to understand the important and different forms of MHC services. Education of the mothers has significant impact on the utilization of maternal health care services. Women with higher education had more tendency of utilization of antenatal care and delivery care services as compared to women with less education (Hazarika, 2010)

Table 4.2. Type of place of Residence, Ethnicity, Number of Housebold's Members (listed) and Number of Children 5 and under in Household (de jure) with Respect to Residence

Variable	Baluchistan Urban		Baluchistan rural		Total
	Frequency	Percentage	Frequency	Percentage	
Type of place of residence					
Urban	3836	47.16	0	0.00	3836
Rural	0	0.00	4297	52.83	4297
Total	3836	47.16	4297	52.83	8133
Ethnicity					
Urdu	35	0.91	8	0.18	43
Punjabi	63	1.64	0	00.0	63
Sindhi	311	8.10	449	10.47	760
Pushto	1200	31.28	1217	28.38	2417
Balochi	984	25.65	636	16.57	1620
English	0	0.00	3	0.06	3
Barauhi	742	19.34	1795	41.86	2537
Siraiki	238	6.20	43	1.00	281
Hindko	7	0.18	0	0.00	7
Kashmiri	5	0.13	0	0.00	5
Farsi	17	0.44	0	0.00	17
Others	234	6.10	137	3.19	371
Total	3836	100.0	4288	100.0	8124
Number of household members (listed)					
2-10	2234	58.23	2437	56.71	4671
11-19	1178	30.70	1410	32.81	2588
20-28	321	8.36	248	5.77	569
29-37	54	1.40	92	2.14	146
38-47	49	1.27	110	2.56	159
Total	3836	100.0	4297	100.0	8133
Number of children 5 and under in household (de jure)					
0-3	3246	84.61	3591	83.56	6837
4-7	496	12.93	582	13.54	1078
8-11	94	2.45	124	2.88	218
Total	3836	100.0	4297	100.0	8133

Table 4.2 indicates variables representing the "types of place of residence, ethnicity, number of household's members (listed) and number of children 5 and under in household (de jure)" of the respondents regarding place of residence in Balochistan. This table shows that comparatively, more than half of the respondents (52.83%) resides in Baluchistan rural and almost half of the respondents (47.16%) Balochistan urban respectively. The place of residence plays significant role in providing access to maternal health care services. There is huge discrepancy in utilizing antenatal care and delivery care services between women of urban and rural areas. 88% mothers in urban areas seek ANC from a skilled health provider, in comparison with only 67% of rural mothers (PDHS, 2012-13).

The next variable signifies the ethnic orientation of the respondents with respect to place of residence in Balochistan. It is shown in the table that Pashtoon (31.28%, 28.38%)] and Brauhi (19.34%, 41.86%) are the two most inhabited ethnic groups in both regions such as Baluchistan urban and Baluchistan rural respectively. The subsequent ethic groups in the both residence are Balochi (25.65%, 16.57%), Siraiki 6.20%, 1.00%) and Sindhi (8.10%, 10.47%) in Balochistan urban and rural respectively. The Urdu speaking, Punjabi, Hindko, Kashmiri, Farsi and others comes in ethnic minority category in the province of Baluchistan.

The subsequent variable "Number of household's members" articulates that more than half of the respondents have 2 to 10 households' members listed in Balochistan urban (58.23%) and rural (56.71%) respectively. More than one fourth of the respondents in Balochistan urban (30.70%) and rural (32.81%) have 11 to 19 households' members listed respectively. The family size or number of household's member does affect the choice and access of women to the maternal health care services depended by decision making power and

financial constrain. It is hypothetically stated that number of children and quality of mother's health is trade-off situation through a budget constraint mechanism, that is, having more children decreases the resource allocated to mothers and affects their health outcomes.

The next variable "Number of children 5 and under in household (de jure)" in the table explained that significant majority of the households in Balochistan urban (84.61%) and rural (83.56%) have 0 to 3 number of children who aged 5 or under respectively.

Table 4.3. Socio Demographic Profile of the Respondents with Respect to Residence

Variable	Baluchistan Urban		Baluchistan rural		Total
	Frequency	Percentage	Frequency	Percentage	
Number of eligible women in household (de facto)					
1-2	3226	84.09	3628	84.43	6854
3-4	534	13.92	504	11.72	1038
5-7	76	1.98	165	3.83	241
Total	3836	100.0	4297	100.0	8133
Relationship to household head					
Head	48	1.25	34	0.79	82
Wife or husband	2719	70.88	3094	72.00	5813
Son/daughter	29	0.75	20	0.46	49
Son/daughter-in-law	583	15.19	562	14.65	1145
Parent	48	1.25	114	2.65	162
Brother/sister	17	0.44	33	0.76	50
Other relative	18	0.46	41	0.95	59
Not related	4	0.10	0	0.00	4
Niece/nephew by blood	1	0.02	0	0.00	1
Brother/sister-in-law	357	9.30	399	9.28	756
Aunts/uncle	12	0.31	0	0.00	12
Total	3836	100.0	4297	100.0	8133
Sex of household head					
Male	3773	98.35	4263	99.20	8036
Female	63	1.64	34	0.79	97
Total	3836	100.0	4297	100.0	8133
Age of household head					
17-36	680	17.72	1073	24.97	1753
37-56	2466	64.28	2574	59.90	5040
57-76	593	15.45	631	14.68	1224
77-95	73	1.90	19	0.44	92
Total	3836	100.0	4297	100.0	8133

Table 4.3 reflects variables indicating "number of eligible women in household (de facto), relationship to household head, sex of household head and age of household head" with respect to residence (urban and rural) in Balochistan. It is manifested in the table that

significant majority of the households (de facto) in Balochistan urban (84.09%) and rural (84.43%) have 1 to 2 eligible women in households.

The second variable signifies the "relationship to the household head" which elucidated that good majority of the respondents both from Baluchistan urban (70.88%) and Baluchistan rural (72%) have relationship to wife or husband as head of household. Subsequently, some of the respondents having relationship to son/daughter-in-law as household's head are comprising Balochistan urban (15.19%) and rural 14.65%) respectively.

The next variable demonstrates sex of the household's head with respect to residence which indicates that great majority of the household's head are male both in Balochistan urban (98.35%) and rural (99.20%) respectively. Due to the patriarchal orientation in familial structure of Pakistani society, decision making power mostly lies in hands of male family members pertaining to family matters. It is assumed that if women had more say in household's matters and had more control over financial resources, they would be more likely to utilize MHC services and, therefore to have better health quality (Fawole & Adeoye, 2015).

The last variable "Age of the household head" in this the table explains that more than half of the household's head age comes with in age category 37-56 comprising on Balochistan urban (64.28%) and rural (59.90%) respectively. Less than one fourth of the household's head ages were 17 to 36 in Balochistan urban (17.72%) and rural (24.97%) respectively.

Table 4.4. The Literacy Rate and Respondent's Frequency of Watching/Reading/Listening Daily Television, Radio and Newspaper/Magazine Respectively with respect to Residence

Variable	Baluchistan Urban		Baluchistan rural		Total
	Frequency	Percentage	Frequency	Percentage	
Literacy					
Cannot read at all	3004	78.39	3907	91.19	6911
Able to read only parts of sentence	214	5.58	122	2.84	336
Able to read whole sentence	614	16.02	249	5.81	863
No card with required language	0	0.00	6	0.14	6
Total	3832	100.0	4284	100.0	8116
Frequency of reading newspaper or magazine					
Not at all	3315	86.71	4047	94.77	7362
Occasionally	464	12.13	190	4.44	654
At least once a week	23	0.60	2	0.04	25
Daily	21	0.54	31	0.72	52
Total	3823	100.0	4270	100.0	8093
Frequency of listening to radio					
Not at all	3091	80.57	3431	77.73	6522
Occasionally	603	15.71	767	19.99	1370
At least once a week	53	1.38	31	0.80	84
Daily	89	2.32	57	1.48	146
Total	3836	100.0	4286	100.0	8122
Frequency of watching television					
Not at all	1088	28.37	2517	58.72	3605
Occasionally	1052	27.43	880	20.53	1932
At least once a week	68	1.77	73	1.70	141
Daily	1626	42.41	816	19.03	2442
Total	3834	100.0	4286	100.0	8120

Table 4.4 denotes literacy rate, frequency of the respondents reading newspaper/magazine, listening radio and watching television with respect to residence in Balochistan. It is shown in the table that majority of the respondents cannot read at all in Balochistan urban (78.39%) and rural (91.19%) respectively which means that most of the women in Balochistan are unaware of health care behavior, they have no knowledge of how to restrain themselves of unhygienic practices and promote their wellbeing, resulting in higher maternal morbidity and mortality rate.

The subsequent two variables "frequency of reading newspaper/magazine and listening radio" by the respondents with respect to residence in this table indicate that a significant majority of the respondents don't read newspaper/magazine at all (86.71%, 94.77%) and don't listen radio at all (80.57%, 77.73%) both in Balochistan urban and rural respectively. Less than one fourth of the respondents listen to radio occasionally in Balochistan urban (15.71%) and rural (19.99%) respectively.

The situation of frequency of watching television with respect to residence in Balochistan is somehow different from the frequency of reading newspaper/magazine and listening radio. It is apparent in this table that less than half of the respondents in Balochistan urban (42.41%) are watching television on daily basis while more than half of the respondents in Balochistan rural (58.72%) are watching television not at all. Subsequently, almost one fourth of the respondents in Balochistan urban (27.43%) and less than one fourth of the respondents in Balochistan rural (20.53%) watch television occasionally, respectively. The statistics of frequency of watching television denoted that most of the respondents in Balochistan rural have comparatively less access and exposure to media which affect awareness regarding their health care knowledge, attitudes and practices.

Table 4.5 Determinants of Socio-economic profile of Respondents (Facilities used in daily life)

Variable	Baluchistan Urban		Baluchistan rural		Total
	Frequency	Percentage	Frequency	Percentage	
Household has: electricity					
No	12	0.31	1192	27.76	1204
Yes	3807	99.29	3059	71.25	6866
Not a dejure resident	15	0.39	42	0.97	57
Total	3834	100.0	4293	100.0	8127
Household has: radio					
No	2498	65.32	2941	68.52	5439
Yes	1311	34.28	1309	30.49	2620
Not a dejure resident	15	0.39	42	0.97	57
Total	3824	100.0	4292	100.0	8116
Household has: Television					
No	745	19.43	2492	58.10	3237
Yes	3074	80.17	1755	40.91	4829
Not a dejure resident	15	0.39	42	0.97	57
Total	3834	100.0	4289	100.0	8123
Household has: Refrigerator					
No	1564	40.79	3235	75.42	4799
Yes	2255	58.81	1012	23.59	3267
Not a dejure resident	15	0.39	42	0.97	57
Total	3834	100.0	4289	100.0	8123
Household has: Bicycle					
No	1861	48.53	2127	49.67	3988
Yes	1958	51.06	2113	49.34	4071
Not a dejure resident	15	0.39	42	0.98	57
Total	3834	100.0	4282	100.0	8116
Household has: motorcycle/ scooter					
No	1804	47.05	2583	60.32	4387
Yes	2015	52.55	1657	38.69	3672
Not a dejure resident	15	0.39	42	0.98	57
Total	3834	100.0	4282	100.0	8116

Household has: car/truck					
No	3223	84.06	3754	87.66	6977
Yes	596	15.54	486	11.34	1082
Not a dejure resident	15	0.39	42	0.98	57
Total	3834	100.0	4282	100.0	8116
Household has: telephone (land-line)					
No	3190	83.37	3990	92.94	7180
Yes	621	16.23	261	6.07	882
Not a dejure resident	15	0.39	42	0.97	57
Total	3826	100.0	4293	100.0	8119

Table 4.5 discusses living standards of respondents with respect to residence in Balochistan which is consist upon variables like household's electricity, radio, television, refrigerators, Bicycle, motorcycle/scooter, car/truck and telephone (landline). It is shown in table that significant majority of the households in Balochistan urban (99.29%) and good majority of the households in Balochistan rural (71.25%) have facility of electricity but majority of the households in Balochistan urban (65.32%) and rural (68.52%) have not access to the radio. By the same token, good majority of the households in Balochisan urban (80.17%) have comparatively more access to television relative to more than half of the households in Balochistan rural (58.10%) respectively.

The subsequent variable "refrigerator" in term of residence elaborates that a good majority of households in Balochistan rural (75.42%) don't have access to refrigerator while in contrast, more than half of the households in Balochistan urban (58.81%) do have facility of refrigerator respectively. By the same token, almost half of the households in Balochistan urban (51.06%) and rural (49.34%) have bicycle at home.

The next variable signifies the access of households to motorcycle/scooter with respect to residence which indicates that majority of the households in Balochistan rural (60.32%)

don't have access to motorcycle/scooter while in comparison, more than half of the households in Balochistan urhan (52.55%) have facility of motorcycle/scooter. By the same token, significant majority of the households have don't a car/truck (84.06%, 87.66%) and telephone (land-line) (83.37%, 92.94%) in Balochistan urban and rural respectively.

Table 4.6. Source and Time (in Minutes) to get Drinking Water by Respondents with Respect to Residence

Variable	Baluchistan Urban		Baluchistan rural		Total
	Frequency	Percentage	Frequency	Percentage	
Source of drinking water					
Piped into dwelling	2089	54.48	753	17.54	2842
Piped to yard/plot	96	2.50	74	1.72	170
Public tap/standpipe	533	13.90	159	3.70	692
Tube well or borehole	371	9.67	711	16.56	1082
Hand pump	94	2.45	333	7.75	427
Protected well	20	0.52	249	5.80	269
Unprotected well	15	0.39	143	3.33	158
Protected spring	18	0.46	336	7.82	354
Unprotected spring	13	0.33	340	7.91	353
River/dam/lake/ponds/ Stream/canal/irrigation Channel	142	3.70	622	14.48	764
Rainwater	21	0.54	41	0.95	62
Tanker truck	255	6.65	108	2.5	363
Cart with small tank	61	1.59	290	6.75	351
Filtration plant	0	0.00	6	0.13	6
Bolted water	84	2.19	86	2.00	170
Other	7	0.18	0	0.00	7
Not a dejure resident	15	0.39	42	0.97	57
Total	3834	100.0	4293	100.0	8127
Time to get water source (in Minutes)					
0-45	429	11.20	1498	35.05	1927
46-90	241	6.29	748	17.49	989
91-135	45	1.17	202	4.72	247
136-180	47	1.22	115	2.69	162
181-225	22	0.57	16	0.37	38
226-270	0	0.00	93	2.17	93
On premises	3002	78.38	1536	35.92	4538
Not a dejure resident	15	0.39	42	0.98	57
Don't know	29	0.75	25	0.58	54
Total	3830	100.0	4275	100.0	8105

Table 4.6 analyses the source and time (in Minutes) of getting drinking water by respondents with respect to residence in Balochistan. The table shows that more than half of the respondents in Balochistab urban (54.48%) use piped into dwelling as source of drinking water in comparison with Balochistan rural where less than one fourth of the respondents (17.54%) use piped into dwelling as source of drinking water. Subsequently, some of the respondents in Balochistan rural (16.56%) use Tube well or borehole as source of drinking water as compared to Balochistan urban (9.67%) respectively.

By the same token, some of the respondents use river/dam/lake/ponds/stream/canal/irrigation channel (3.70%, 14.48%), public tap/standpipe (13.90%, 3.70%), hand pump (2.45%, 7.75%), protected spring (0.52%, 5.80%), unprotected spring (0.33%, 7.91%), tanker truck (6.65%, 2.5%) and cart with small tank (1.59%, 6.75%) as source of drinking water in both regions of Baluchistan (urban and rural) respectively.

The second variable indicates the time taken by respondents of getting drinking water with respect to residence in Balochistan. A good majority of the respondents particularly from Baluchistan urban (78.38%) get drinking water from "on premises" as compared to Balochistan rural where more than one fourth of the respondents (35.92%) get drinking water from "on premises" respectively. Comparatively, more than one fourth of the respondents from Baluchistan rural (35.05%) travel from 0 to 45 minutes to get drinking water in comparison with Baluchistan urban (11.49%) which means that many respondents in rural areas don't have the facility of nearby water resource and the task of getting water is mostly done by women. There is quite possibility that most of pregnant women during pregnancy would do this heavy task in rural areas of Baluchistan which is harmful for their

maternal health. This tragic situation needs initiatives from government, community and family to look after the needs of maternal women and try to eradicate all kinds of problems faced by them.

Table 4.7. Types of Toilet Facility and Toilet Facilities Shared with other Householders by the respondents with Respect to Residence

Variable	Baluchistan Urban		Baluchistan rural		Total
	Frequency	Percentage	Frequency	Percentage	
Types of toilet facility					
Flush to piped sewer system	740	19.30	79	1.84	819
Flush to septic tank	650	16.95	195	4.54	845
Flush to pit latrine	792	20.65	323	7.52	1115
Flush to somewhere else	139	3.62	64	1.49	203
Flush, don't know where	157	4.09	22	0.51	179
Ventilated Improved Pit latrine (VIP)	500	13.04	453	10.55	953
Pit latrine with slab	478	12.46	958	22.31	1436
Pit latrine without slab/open pit	189	4.92	608	14.16	797
No facility/bush/field	151	3.93	1504	35.03	1655
Bucket toilet	15	0.39	37	0.86	52
Hanging toilet/latrine	3	0.07	0	0.00	3
Other	5	0.13	8	0.18	13
Not a dejure resident	15	0.39	42	0.97	57
Total	3834	100.0	4293	100.0	8127
Toilet facilities shared with other households					
No	3211	87.46	2426	87.58	5637
Yes	445	12.12	302	10.90	747
Not a dejure resident	15	0.40	42	1.51	57
Total	3671	100.0	2770	100.0	6441

Table 4.7 illustrates the sanitation situation with the help of variables such as "Types of toilet facility and toilet facility shared with other householders" by the respondents with respect to residence in Balochistan. The statistics in this table regarding the types of toilet facility used by households indicates that more than one fourth of the respondents from Baluchistan rural (35.03%) have no toilet facility at all as compared to Baluchistan urban (3.93%) which speaks well for pathetic sanitation situation in rural areas of Balochistan. The sanitation situation in terms of toilet facility in Balochistan urban is somehow better

than Balochistan rural. Less than one fourth of the respondents use Flush to pit latrine, flush to piped sewer system and flush to septic tank in Balochistan urban (20.65%, 1930%, 16.95%) as compared to Balochistan rural (7.54%, 1.84%, 4.54%) respectively. The most common toilet facility is Pit latrine with slab in Balochistan rural (22.31%) relative to Balochistan urban (12.46%) respectively.

The subsequent variable "toilet facility shared with other households" in this table suggests that significant majority of the households don't share toilet facilities with other households both in Baluchistan urban (87.46%) and rural (87.58%) respectively. Some of the households (12.12%, 10.90%) do share their toilet facilities with households, comprising Baluchistan urban and rural respectively. It means they are somehow sensitized about the importance of hygienic practices.

There are various research studies supporting the argument that women of reproductive age health status can be influenced by the distance travelled to source of water, clean water usage, having and using clean toilet. A study using data from World Bank, WHO and UNICEF, discovered that more access to clean water sources and hygienic sanitation is magnificently linked with decreased maternal mortality ratios.

Table 4.8. Socio-economic Profile of the Respondents (Materials Used in Construction of House) with Respect to Residence

Variable	Baluchistan Urban		Baluchistan rural		Total
	Frequency	Percentage	Frequency	Percentage	
Main floor material					
Earth, sand	1678	43.76	3456	80.70	5134
Dung	0	0.00	14	0.32	14
Wood planks	5	0.13	6	0.14	11
Palm, bamboo	5	0.13	0	0.00	5
Parquet, polished wood	7	0.18	0	0.00	7
Ceramic tiles	28	0.73	6	0.14	34
Cement	1498	39.07	469	10.95	1967
Carpet	207	5.39	81	1.89	288
Chips/Terrazzo	93	2.42	34	0.79	127
Bricks	100	2.60	34	0.79	134
Mats	150	3.91	135	3.15	285
Marble	48	1.25	3	0.07	51
Other	0	0.00	2	0.04	2
Not a dejure resident	15	0.39	42	0.98	57
Total	3834	100.0	4282	100.0	8116
Main wall material					
No walls	151	3.93	962	22.49	1113
Cane / palm / trunks	19	0.49	50	1.16	69
Dirt	39	1.01	31	0.72	70
Mud/stones	296	7.72	709	16.57	1005
Bamboo/Sticks/mud	6	0.15	80	1.87	86
Unbaked bricks/mud	946	24.67	1427	33.36	2373
Bamboo with mud	3	0.07	7	0.16	10
Stone with mud	148	3.86	265	6.19	413
Uncovered adobe	51	1.33	15	0.35	66
Baked bricks	792	20.65	211	4.93	1003
Tent	17	0.44	37	0.86	54
Cement	820	21.38	243	5.68	1063
Stone with lime / cement	26	0.67	3	0.07	29
Bricks	195	5.08	98	2.29	293
Cement blocks	225	5.86	0	0.00	225
Covered adobe	85	2.21	80	1.87	165
Other	0	0.00	17	0.39	17
Not a dejure resident	15	0.39	42	0.98	57
Total	3834	100.0	4277	100.0	8111

Table 4.8 depicts the variables such as "main floor material and main wall material" indicating the materials used in construction of the houses with respect to residence in Balochistan. Significant majority of the respondents from Balochistan rural (80.70%) use earth, sand in the main floor material of the house as compare to Balochistan urban (43.76%) respectively. It implies that most of the houses constructed "kacha" (local dialect) in rural areas of Baluchistan which signifies that most of the respondents have low wealth index. On the other hand, less than half of the respondents from Balochistan urban (39.07%) use cement as main floor material in construction of house in comparison with Balochistan rural (10.95%), respectively. It symbolizes that respondents in Balochistan urban have comparatively "pakka" (local dialect) houses than Balochistan rural which is correspondent to higher wealth index. It is supported by various research studies and reports that wealth index has direct impact on the access and affordability of women to maternal health care services.

The second variable denotes the use of main wall material in construction of house by the respondents with respect to residence in Balochistan. This table shows that more than one fourth of the houses in Balochistan rural (33.36%) are built by unbaked bricks/mud relative to Balochistan urban (24.67%) respectively. Subsequently, less than one fourth of the houses main walls in Baluchistan urban (20.65 %) are constructed by baked bricks in comparison with Baluchistan rural (4.93%) respectively. By the same token, less than one fourth of houses main wall in Baluchistan rural (16.57%) are built by mud/stones as compared to Baluchistan urban (7.72%) respectively. Similarly, less than one fourth of the houses in Baluchistan rural (22.49%) have no wall at all in relative to Baluchistan urban 151 (3.93%) due to the ecological factor.

Table 4.9. Materials used in the Construction of House and Type of Cooking Fuel used by Respondents with Respect to Residence

Variable	Baluchistan Urban		Baluchistan rural		Total
	Frequency	Percentage	Frequency	Percentage	
Main roof material					
No roof	13	0.34	56	1.30	69
Thatch / palm leaf	121	3.16	426	9.94	547
Sod/grass	120	3.14	242	5.65	362
Rustic mat	375	9.82	943	33.02	1318
Palm / bamboo	180	4.71	635	14.82	815
Wood planks	134	3.50	355	8.29	489
Cardboard	56	1.46	19	0.44	75
Iron sheets/asbestos	176	4.60	121	2.82	297
Reinforced brick cement/RCC	495	12.96	154	3.59	649
Wood/ T Iron/Mud	1257	32.92	913	21.32	2170
Calamine /cement fiber	221	5.78	82	1.91	303
Ceramic tiles	21	0.55	45	1.05	66
Cement/RCC	597	15.63	196	4.57	793
Roofing shingles	7	0.18	2	0.04	9
Other	30	0.78	51	1.19	81
Not a dejure resident	15	0.39	42	0.98	57
Total	3818	100.0	4282	100.0	8100
Type of cooking fuel					
Electricity	38	0.99	7	0.16	45
LPG	227	5.92	68	1.58	295
Natural gas	1695	44.20	426	9.92	2121
Biogas	82	2.13	0	0.00	82
Coal, lignite	6	0.15	126	2.93	132
Charcoal	155	4.04	248	5.77	403
Wood	1336	34.84	2322	54.08	3658
Straw/ shrubs/ grass	102	2.66	647	15.07	749
Animal dung	170	4.43	407	9.48	577
No food cooked in house	8	0.20	0	0.00	8
Not a dejure resident	15	0.39	42	0.93	57
Total	3834	100.0	4293	100.0	8127

Table 4.9 discusses the variables such as main roof material of the house and type of cooking fuel used by respondents with respect to residence in Balochistan. The analyses of the first variable "main roof material" of the house indicated that more than one fourth of tbe houses main roof in Balochistan urban (32.92%) are constructed by wood/T iron/mud as compared to Balochistan rural (21.31%) respectively. On the other hand, more than one fourth of the houses main roof in Balochistan rural (33.02%) are built by rustic mat relative to Balochistan urban (9.82%) respectively. Similarly, some of the houses main roof in Balochistan rural (14.82%) are built by palm/bamboo as compared to Balochistan urban (4.71%) respectively.

The second variable "types of cooking fuel" used by households with respect to residence in Balochistan elaborates that more than half of the households particularly from Balochistan rural (54.08%) use wood as cooking fuel than Baluchistan urban (34.84%) respectively. Ironically, Balochistan has abundant natural resources and is highest suppler of natural gases than other provinces in the country but lowest consumer of its own natural resources. It is implied that Balochistan is being less empowered socio-economically and politically. Subsequently, less than half of the households in Balochistan urban (44.20%) use natural gas as cooking fuel in comparison with Balochistan rural (9.92%) where less number of households use natural gases as cooking fuel. It is also highlighted that households from Baluchistan rural have comparatively less access to natural gas as cooking fuel than Baluchistan urban. Similarly, some of the households using straw/shrubs/grass as cooking fuel are (2.66%, 15.07%), using animal dung as cooking fuel (4.43%, 9.48%), using charcoal as cooking fuel are (4.04%, 5.77%) both in Baluchistan urban and rural respectively.

Obstetric profile of the respondents (from table 4.10 to 4.21)

Table 4.10. Antenatal Care: Visits to the Antenatal Health Care Provider during Pregnancy with Respect to Residence

Variable	Baluchistan rural		Baluchistan rural		Total
	Frequency	Percentage	Frequency	Percentage	
Doctor					
No	274	49.72	463	77.55	737
Yes	277	50.27	134	22.44	411
Total	551	100.0	597	100.0	1148
Nurse/midwife/LHV					
No	526	95.46	573	95.97	1098
Yes	26	4.71	24	4.02	50
Total	551	100.0	597	100.0	1148
DAI-TBA					
No	497	90.19	502	84.08	999
Yes	54	9.80	95	15.91	149
Total	551	100.0	597	100.0	1148
Lady health worker					
No	545	98.91	596	99.83	1141
Yes	6	1.08	1	0.16	7
Total	551	100.0	597	100.0	1148
Homeopath					
No	551	100.0	596	99.83	1147
Yes	0	0.00	1	0.16	1
Total	551	100.0	597	100.0	1148
Hakim					
No	551	100.0	597	100.0	1148
Yes	0	0.00	0	0.00	0
Total	551	100.0	597	100.0	1148
Other					
No	551	100.0	597	100.0	1148
Yes	0	0.00	0	0.00	0
Total	551	100.0	597	100.0	1148
Dispenser/compounder					
No	551	100.0	594	99.49	1145
Yes	0	0.00	3	0.50	3
Total	551	100.0	597	100.0	1148

Table 4.10 elaborates the visits of respondents to the antenatal care provider during pregnancy with respect to residence in Balochistan. Antenatal care (ANC) receive from a skilled health care provider is important to supervise pregnancy and decrease the risk of morbidity for mother and baby during pregnancy and delivery care. The most perceived factor among other important factors behind Maternal Mortality Rate (MMR) is the shortage/absence of skilled birth attendants while analyzing the maternal health situation in Baluchistan. The variables discussed relative to ANC in this table indicated that good majority of the respondents particularly from Baluchistan rural (77.55%) have no access to doctor as compared to Baluchistan urban (49.72%) where almost half of respondents have access Doctor during pregnancy which means provincial government in Balochistan is not much sensitized to promote wellbeing of rural community in Baluchistan.

Due to the shortage of female doctors particularly, nurse/midwife/LHV is trained enough to provide basic health services in place of professional doctors specially in less developed areas but significant majority of the respondent from Balochistan urban (95.46%) and rural (95.97%) have been deprived of this health facility because of the negligence and incapability of concerned authorities in the province. Same is the case with other health care providers where great majority of the respondents don't have access to DAI-TBA (90.19%, 84.08%), Lady health worker (98.91%, 99.83%), Homeopath (100%, 100%) and Hakim (100%, 100%) both in Balochistan urban and rural respectively.

The statistics shown in Pakistan Demographic Health Survey (2012-13) suggested that the respondents access to antenatal care provider greatly change with the nature and pattern of variables such as age of mother at time of birth, birth order, residence (urban and rural), regions, education and wealth index. For example, Urban women get more (89.8%)

antenatal care services as compared with rural women (69.6%). The disparities of women's access to antenatal care services with in regions recommended that Baluchistan (urban:60.1%, rural:40.4%) has occupied least position in comparison with other provinces such as Punjab (89.9%, 76%), Sindh (93%, 68%) and Khyber-Pakhtunkhwa (86.3%, 58%).

4.11. Antenatal care: Antenatal Health Care Facilities Available to the Respondents in the Public and Private Health Care Providing Centers.

Variable	Baluchistan Urban		Baluchistan Rural		Total
	Frequency	Percentage	Frequency	Percentage	
Other home					
No	307	91.09	194	78.22	501
Yes	30	8.90	54	21.77	84
Total	337	100.0	248	100.0	585
Government hospital					
No	231	68.54	181	72.98	412
Yes	106	31.45	67	27.01	173
Total	337	100.0	248	100.0	585
Rural health center(RHC)/Mother child health center(MCH)					
No	324	96.14	246	99.19	570
Yes	13	3.85	2	0.80	15
Total	337	100.0	248	100.0	585
BHU/FWC					
No	334	99.10	246	99.19	580
Yes	3	0.89	2	0.80	5
Total	337	100.0	248	100.0	585
Other public health					
No	337	100.0	248	100.0	585
Yes	0	0.00	0	0.00	0
Total	337	100.0	248	100.0	585
private hospital/clinic					
No	185	54.89	184	74.19	369
Yes	152	45.10	64	25.80	216
Total	337	100.0	248	100.0	585
private doctor					
No	304	90.20	232	93.54	536
Yes	33	9.79	16	6.45	49
Total	337	100.0	248	100.0	585
Homeopath					
No	337	100.0	248	100.0	585
Yes	0	0.00	0	0.00	0
Total	337	100.0	248	100.0	585

Dispenser/compounder					
No	337	100.0	243	97.98	580
Yes	0	0.00	5	2.01	5
Total	337	100.0	248	100.0	585
Other private					
No	337	100.0	248	100.0	585
Yes	0	0.00	0	0.00	0
Total	337	100.0	248	100.0	585
Hakim					
No	337	100.0	248	100.0	585
Yes	0	0.00	0	0.00	0
Total	337	100.0	248	100.0	585
Other					
No	337	100.0	248	100.0	585
Yes	0	0.00	0	0.00	0
Total	337	100.0	248	100.0	585

Table 4.11 demonstrates antenatal health care facilities available to the respondents in the public and private health care providing centers with respect to residence in Balochistan. The comparative analysis of public health care versus private health care system in Balochistan indicated that respondents are comparatively more satisfied with private health care providing centers than public health care system due to limited availability of health care facilitates, poor infrastructure and inefficiency of public health care system. This argument is supported by analysis in this table which holds that majority of the respondents do not visit government hospitals (68.54%,72.98%), great majority of the respondents do not visit rural health center/ mother child health center (96.14%, 99.19%) and BHU/FWC (99.10%, 99.19%) both in Baluchistan urban and rural respectively. Less than half of the respondents visit more private hospitals/ clinic in Baluchistan urban (45.10%) as compared to Balochistan rural (25.80%) respectively.

Similarly, great majority of the respondents do not visit private doctor (90.20%, 93.54%), Dispenser/compounder (100.0%, 97.98%), hakim (100.0%, 100.0%) and homeopath (100.0%, 100.0%) in both regions (urban and rural) of Baluchistan. The statistical analysis in this table strengthen the argument further that it is just because of the poor and inconvenient public health care system where most of respondents don't pay visits during maternal health issues and some of the respondents who can afford the expenditure prefer to get private health care in Baluchistan.

4.12. Number of Antenatal Care Visits and Timing of the First Visit to Antenatal Care Provider During Pregnancy with Respect to Residence

Variable	Baluchistan Urban		Baluchistan Rural		Total
	Frequency	Percentage	Frequency	Percentage	
Number of antenatal visits during pregnancy					
No antenatal visits	214	38.83	350	58.62	564
1	54	9.80	53	8.87	107
2-3	176	31.94	118	19.76	294
4+	104	18.87	69	11.55	173
Don't know	3	0.54	7	1.17	10
Total	551	100.0	597	100.0	1148
Timing of 1st antenatal check (months)					
<4	148	44.04	106	42.74	254
4-5	108	32.14	60	24.19	168
6-7	50	14.88	41	16.53	91
8+	25	7.44	40	16.12	65
Don't know	5	1.48	1	0.40	6
Total	336	100.0	248	100.0	584

Table 4.12 shows the "number of antenatal care visits and timing of the first visit during pregnancy" with respect to residence in Balochistan. The antenatal care visits to the health care provider is very important because it reduces the probability of complication during pregnancy. It is indicated in this table that more than half of the respondents particularly from Balochistan rural (58.62%) have no antenatal visits during pregnancy in comparison with Balochistan urban where less than half of the respondents (38.83%) have no antenatal visits during pregnancy which speaks well for inconvenient maternal health situation in the province. This kind of negligence paves the way for maternal mortality rate (MMR) which is already high in Balochistan in comparison with other provinces. More than one fourth of the respondents in Balochistan urban (31.94%) do visit to antenatal care provider from 2-3 times as compared to Balochistan rural (19.76%) respectively. The respondents from

rural area are lagging in visiting antenatal care provider than urban areas due to couple of factors such as shortage of basic health units, LHVs and LHW, less permission from family to visit antennal care provider, distance and transportation issue, low awareness etc.

The second variable "timing of the first visit to the antenatal care provider during pregnancy "in this table illustrated that less than half of the respondents in Balochistab urban (44.04%) and rural (42.74%) visit antennal care provider in less than four (<4) months respectively. Subsequently, more than one fourth of the respondents visiting between 4 and 5 months to antenatal care provider belong to Baluchistan urban (32.14%) and rural (32.14%) respectively.

4.13. Components of Antenatal Care (Medical Test and Prescriptions During Pregnancy)

Variable	Baluchistan Urban		Baluchistan Rural		Total
	Frequency	Percentage	Frequency	Percentage	
Weighed					
No	126	37.72	138	55.87	264
Yes	208	62.27	109	44.12	317
Total	334	100.0	247	100.0	581
Blood pressure taken					
No	46	13.64	88	35.48	134
Yes	291	86.35	160	64.51	451
Total	337	100.0	248	100.0	585
Urine sample taken					
No	115	34.22	129	52.01	244
Yes	221	65.77	119	47.98	340
Total	336	100.0	248	100.0	585
Blood sample taken					
No	155	46.26	167	67.33	322
Yes	180	53.73	81	32.66	261
Total	335	100.0	248	100.0	583
Told about pregnancy complications					
No	166	49.25	125	50.40	291
Yes	165	48.96	122	49.19	287
Don't know	6	1.78	1	0.40	7
Total	337	100.0	248	100.0	585
Given or bought iron tablets/syrup					
No	401	72.77	510	85.42	911
Yes	150	27.22	87	14.57	237
Total	551	100.0	597	100.0	1148
Drugs for intestinal parasites					
No	537	97.81	586	98.32	1123
Yes	3	0.54	6	1.006	9
Don't know	9	1.63	4	0.67	13
Total	549	100.0	596	100.0	1145

Table 4.13 elaborates the components of antenatal care received by respondents with respect to residence in Balochistan. It is argued that the components of antenatal care are an essential indicator of the quality of health services provided to pregnant women. Focused antenatal care hinges on the principle that every pregnancy is at risk of complications. Therefore, apart from receiving basic care, every pregnant woman should be assessed for her risk of complications during pregnancy or childbirth. Ensuring that every pregnant woman receives basic information about preexisting health conditions (e.g., anemia, hypertension), potential complications, and birth preparedness should be a routine part of antenatal care (PDHS, 2012-13).

The analyses of variable "components of antenatal care" in this table indicated that majority of the respondents in Balochistan urban (62.27%) weighed their weight during pregnancy while on other hand, more than half of the respondents from Balochistan rural (55.87%) did not weigh their weight during pregnancy. Similarly, good majority of the respondent's blood pressure were taken during pregnancy (86.35%, 64.51%) while more than one fourth of the respondents' blood pressure in Balochistan rural (35.48%) were not taken during pregnancy as compared to Balochistan urban (13.64%) respectively.

Subsequently, the analyses of urine and blood sample during pregnancy in this table indicated that In Baluchistan urban, majority of the respondent's urine sample (65.77%) and blood sample (53.73%) have been taken during pregnancy while almost half of the respondents' urine sample (47.98%) and majority of the respondents' hlood sample (67.33%) have not been taken during pregnancy in Baluchistan rural respectively. By the same token, almost half of the respondents have not been told about pregnancy complications in Balochistan urban (49.25%) and rural (50.40%) respectively while good

majority of the respondents have not been given or bought iron tablets/syrup during pregnancy in Baluchistan urban (72.77%) and rural (85.42%) respectively.

The component "Drugs for intestinal parasites" of antenatal care in this table depicted that significant majority of the respondents in Balochistan urban (97.81%) and rural (98.32%) have not taken drugs for intestinal parasites during pregnancy respectively. The comparative analysis of components of antenatal care in Balochistan suggested that respondents in rural areas are lagging then urban areas in receiving components of antenatal care during pregnancy due to the less access of the respondents to maternal health care services and incapability of public health system in providing health care facilities, specially to the people in rural area of Balochistan.

4.14. Assistance Provided at Time of Birth (Delivery) to the Respondents by the Skilled Health Care Provider with Respect to Residence

Variable	Baluchistan Urban		Baluchistan Rural		Total
	Frequency	Percentage	Frequency	Percentage	
Doctor					
No	585	68.82	906	87.19	1491
Yes	265	31.17	133	12.80	398
Total	850	100.0	1039	100.0	1889
Nurse/midwife/LHV					
No	730	85.88	999	96.15	1729
Yes	120	14.11	40	3.84	160
Total	850	100.0	1039	100.0	1889
DAI-traditional birth attendant					
No	341	40.11	282	27.14	623
Yes	509	59.88	757	72.85	1266
Total	850	100.0	1039	100.0	1889
Family welfare center (FWW)					
No	850	100.0	1039	100.0	1889
Yes	0	0.00	0	0.00	0
Total	850	100.0	1039	100.0	1889
Lady health worker					
No	849	99.88	1039	100.0	1888
Yes	1	0.11	0	0.00	1
Total	850	100.0	1039	100.0	1889
Homeopath					
No	850	100.00	1039	100.0	1889
Yes	0	0.00	0	0.00	0
Total	850	100.0	1039	100.0	1889
Other					
No	850	100.0	1038	99.90	1888
Yes	0	0.00	1	0.09	1
Total	850	100.0	1039	100.0	1889
Hakim					
No	850	100.0	1039	100.0	1889
Yes	0	0.00	0	0.00	0
Total	850	100.0	1039	100.0	1889

Relative friend					
No	681	80.11	796	76.61	1477
Yes	169	19.88	243	23.38	412
Total	850	100.0	1039	100.0	1889
No one					
No: some assistance	850	100.0	1039	100.0	1889
Yes: no one	0	0.00	0	0.00	0
Total	850	100.0	1039	100.0	1889

Table 4.14 signifies the assistance provided at the time of birth (delivery) to the respondents by the skilled health care providers with respect to residence in Balochistan. It is viewed that obstetric care provided by a qualified health professional during delivery (skilled birth attendance) is recognized as the most critical factor in reducing maternal and neonatal mortality (PDHS, 2012-13). The analyses of variable "assistance at time of birth" indicated that majority of the respondents do not seek assistance from doctors (68.82%, 87.19%), great majority of the respondents 'do not seek assistance from nurse/midwife/lady health visitors (85.88%, 96.15%)], family welfare center (100%, 100%) and lady health visitors (99.88%, 100%) at the time of birth (delivery) both in Baluchistan urban and rural respectively This happens due to the unavailability of skilled birth attendants especially in rural areas of Balochistan.

Similarly, the most frequent person providing help at the time of birth (delivery) is Traditional Birth Attendants (TBA)/DAI in Balochistan urban (59.88%) and rural (72.85%) respectively. The analysis of this tahle has revealed that Traditional Birth Attendant (TBA) is the most common and easily accessed person to seek help by the respondents at the time of birth in the absence of skilled birth attendants in Balochistan. It is known that TBA is unskilled and cannot handle the complications at the time of birth.

Hence, it is considered the most significant reason behind the higher neo and maternal mortality ratio of Balochistan in comparison with other provinces of the country. In this regard, all responsibility should be put on the shoulders of public health institute and provincial government for the lack of supervision and accountability in Baluchistan because providing health access to people specially in less developed areas is the constitutional and fundamental right of people and the negligence is unpardonable.

4.15. Period of Breastfeeding with Respect to Residence

Variable	Baluchistan Urban		Baluchistan Rural		Total
	Frequency	Percentage	Frequency	Percentage	
Duration of breastfeeding					
Ever breastfed, not currently breastfeeding	577	68.04	738	71.02	1315
Never breastfed	31	3.65	29	2.79	60
Still breastfeeding	240	28.30	272	26.17	512
Total	848	100.0	1039	100.0	1887
Months of breastfeeding					
0-11	120	14.15	143	13.76	263
12-23	78	9.19	95	9.14	173
24-35	31	3.65	25	2.40	56
36-47	7	0.82	5	0.48	12
48-59	4	0.47	4	0.38	8
Ever breastfed, not currently breastfeeding	577	68.04	738	71.02	1315
Never breastfed	31	3.65	29	2.79	60
Total	848	100.0	1039	100.0	1887

Table 4.15 elaborates the duration and month of breastfeeding to the infants with respect to residence in Balochistan. UNICEF and WHO recommend that children should be exclusively breastfed (no other liquid, solid food, or plain water) during the first six months of life (WHO/UNICEF, 2002; Pan American Health Organization (PAHO/WHO, 2003). The analyses of variable "Duration of Breastfeeding" of the respondents in this table indicated that majority of respondents ever breastfed, not currently breastfeeding to infants both in Baluchistan urban (68.04%) and rural (71.02%) respectively. Subsequently, more than one fourth of the respondents Still breastfeeding their infants in Baluchistan urban (28.30%) and rural (26.17%) respectively. Similarly, some of the respondents who breastfeed their infants from 0 to 11 months are (14.15%) and (13.76%) both in Baluchistan urban and rural respectively.

Pakistan's national nutrition strategy promotes exclusive breastfeeding through age 6 months and, thereafter, the introduction of semisolid or solid foods along with continued breast milk until the child is at least age 2 (Ministry of Health, 2004). Pakistan demographic health survey (2012-13) showed results for key IYCF breastfeeding practices among children under age 2 who are living with their mothers. Although 38 percent of children under age 6 months are exclusively breastfed, only 24 percent of those age 4-5 months are exclusively breastfed. Four in five children (81%) continue breastfeeding at age 1, and 56% continue to breastfeed until age 2. Sixty-six percent of children start receiving complementary foods at an appropriate age. Fifty-six percent of children age 0-23 months are breastfed appropriately for their age (i.e., exclusive breastfeeding for children age 0-5 months and continued breastfeeding along with complementary foods for children age 6-23 months). Fifty-five percent of children are predominantly breastfed (breast milk and only plain water or non-milk liquids such as juice, clear broth, and other liquids); 42 percent of children under age 2 are bottle fed.

The median duration of any breastfeeding in Pakistan is 19.0 months, like the duration reported in the 2006-07 PDHS (18.9 months). Median duration of breastfeeding is slightly higher for male children (20.3 months), children residing in rural areas (19.6 months), children of mothers with no education (20.6 months), and children in the lowest wealth quintile (20.8 months). The mean duration of breastfeeding for all children is 18.3 months (NIPS, 2013).

4.16. Size and Weight of the Child at Birth with Respect to Residence

Variable	Baluchistan Urban		Baluchistan Rural		Total
	Frequency	Percentage	Frequency	Percentage	
Size of child at birth					
Very large	5	0.58	1	0.09	6
Larger than average	42	4.94	33	3.16	75
Average	632	74.35	730	70.05	1362
Smaller than average	118	13.88	188	18.04	306
Very small	49	5.76	86	8.25	135
Don't know	4	0.47	4	0.38	8
Total	850	100.0	1042	100.0	1892
Birth weight in kilograms (3 decimals)					
1000-2000	15	1.77	1	0.09	16
2001-3000	15	1.77	1	0.09	16
3001-4000	10	1.18	2	0.19	12
4001-5000	3	0.35	0	0.00	3
Not weighed at birth	699	82.52	964	92.78	1663
Don't know	105	12.39	71	6.83	176
Total	847	100.0	1039	100.0	1886
Weight at birth/recall					
Not weighed	699	82.04	964	91.80	1663
From written card	21	2.46	2	0.19	23
From mother's recall	22	2.58	2	0.19	24
Don't know	45	5.28	36	3.42	81
Special answers	65	7.62	46	4.38	111
Total	852	100.0	1050	100.0	1902

Table 4.16 indicates size of a child at birth, birth weight in kilograms (3 decimals) and weight at birth/recall with respect to residence in Balochistan It is argued that information on weight and size of a child at birth is important for the design and implementation of public health programs aimed at reducing neonatal and infant mortality. A child's birth

weight or size not only indicates the child's vulnerability to the risk of childhood illnesses but also defines the child's chances of survival.

The analysis of the variable "size of a child at birth" in this table reflected that good majority of the children's size at birth is average in Balochistan urban (74.35%) and rural (70.05%) respectively. Subsequently, some of the children's size at birth is smaller than average in Balochistan urban (13.88%) and rural (18.04%) respectively. The second variable "weight of the child at birth" indicated that significant majority of children not weighed at birth (82.525, 92.78%) in both residence (urban and rural) of Baluchistan. It is derived from this discussion that majority of the births do not take place in a health facility and children are less likely to be weighed at birth in a non-institutional setting such as homes.

4.17. Complementary Food given to Child after Birth

Variable	Baluchistan Urban		Baluchistan Rural		Total
	Frequency	Percentage	Frequency	Percentage	
Drank from bottle with nipple yesterday/last night					
No	636	80.50	833	89.09	1469
Yes	154	19.49	101	10.80	255
Don't know	0	0.00	1	0.10	1
Total	790	100.0	935	100.0	1725
Did eat any solid, semi-solid or soft foods yesterday					
No	95	37.69	97	32.88	192
Yes	158	62.69	198	67.11	356
Total	252	100.0	295	100.0	548
Number of times ate solid, semi-solid or soft food yesterday					
None	95	37.54	98	32.88	193
1-3	76	30.03	129	43.28	205
4-5	54	21.34	51	17.11	105
6-7+	28	11.06	14	4.69	42
Don't know	0	0.00	4	1.34	4
Total	253	100.0	298	100.0	549

Table 4.17 discusses the complimentary food given to infants after birth with respect to residence in Balochistan. It is recommended that complementary foods (solid or semisolid foods fed to infants in addition to breast milk) be started at age 6 months. The reason is that, at this age, breast milk alone is no longer sufficient to maintain the children recommended daily nutritional requirements and enhance growth. Children are fed small quantities of solid and semisolid foods while continuing to breastfeed up to age 2 or beyond. The amount of food is increased gradually from 6 to 23 months, the period of transition to eating the regular family diet (PDHS, 2012-13).

The analysis of first variable "drank from bottle with nipple yesterday/last night" shows that a good majority of the infants in Balochistan urban (80.50%) and rural (89.09%) after birth did not drink from bottle with nipple yesterday/ last night, respectively. Subsequently, some of the infants after birth drank from bottle with nipple yesterday/last night in Balochistan urban (19.49%) and rural (10.80%) respectively.

The second variable "did eat any solid, semi-solid or soft foods yesterday" indicated that majority of the infants after birth did eat solid, semi-solid or soft foods yesterday (62.69%), 67.115) and more than one fourth of the infants in Baluchistan urban (37.69%) and rural (32.88%) after birth did not eat any solid, semi-solid or soft foods yesterday, respectively.

The third variable "number of times ate solid, semi-solid or soft food yesterday" recommendes that more than half of the infants in Balochistan urban (51.37%) and rural (60.39%) after birth ate solid, semi-solid or soft food yesterday from 1 to 5 times, respectively. Subsequently, some of the infants after birth did not eat any solid, semi-solid or soft food yesterday (37.54%, 32.88%) in hoth residence (urban and rural) of Balochistan respectively.

4.18. Respondent's Visits to Health Care Provider after Delivery

Variable	Balucbistan Urban		Balucbistan Rural		Total
	Frequency	Percentage	Frequency	Percentage	
Respondent's checkup after delivery					
No	321	58.57	384	64.53	705
Yes	227	41.42	211	35.46	438
Total	548	100.0	595	100.0	1143
Respondent's health professional checked up after delivery					
Doctor	131	57.70	58	27.61	189
Nurse/midwife/LHV	30	13.21	4	1.90	34
DAI-Traditional birth attendant	63	27.75	146	69.52	209
Lady health worker	2	0.88	0	0.00	2
Dispenser/compounder	0	0.00	1	0.47	1
Other	1	0.44	1	0.47	2
Total	227	100.0	210	100.0	437
Received Vitamin A dose in first 2 months after delivery					
No	492	89.61	560	94.27	1052
Yes	57	10.38	32	5.38	89
Don't know	0	0.00	2	0.33	2
Total	549	100.0	594	100.0	1143

Table 4.18 indicates the respondents' visits to health care provider after delivery, comparing both residence (urban and rural) of Balochistan. It is argued that the postpartum period is particularly important for women, because during this period they may develop serious, life-threatening complications, especially in the interval immediately after delivery. There is evidence that a large proportion of maternal and neonatal deaths occur during the first 48 hours after delivery. Postnatal care visits provide an ideal opportunity to educate a new mother on how to care for herself and her newborn baby (PDHS, 2012-13).

The analysis of variable "respondents' checkup after delivery" in this table denoted that majority of the respondents did not receive checkup after delivery (58.57%, 64.53%) and less than half of the respondents in Balochistab urban (41.42%) and rural (35.46%) received checkup after delivery, respectively.

The second variable "respondents' checkup by health professionals after delivery" indicated that more than half of the respondents' health in Balochistan urban (57.70%) are checked by doctor in comparison with Balochistan rural where almost one fourth (27.61%) of the respondents' health are checked by doctor, respectively. On the other hand, good majority of the respondents' health in Balochistan rural (69.52%) are checked by DAI-Traditional birth attendants after delivery as compared to Balochistan urban (27.75%) respectively. This discrepancy clearly showed that respondents in Balochistan rural have comparatively less access to skilled/professional health care providers due to limited or unavailability of health care professionals in rural areas of Balochistan and the responsibility lies on the shoulder of public health care system in the province.

The analysis of next variable "Received Vitamin A dose in first 2 months after delivery" demonstrated that significant majority of the respondents did not receive vitamin A dose in first 2 months after delivery in Balochistan urban (89.61%) and rural (94.27%) respectively. Adequate micronutrient intake by women has important benefits for both women and their children. Iron supplements to women during pregnancy protects the mother and infant against anemia, which is considered a major cause of perinatal and maternal mortality. Anemia also results in an increased risk of premature delivery and low birth weight (PDHS, 2012-13)

4.19. First 3 days, Diet given to Infant after Birth with Respect to Residence

Variable	Baluchistan Urban		Baluchistan Rural		Total
	Frequency	Percentage	Frequency	Percentage	
Given milk (other than breast milk)					
No	494	93.20	545	95.11	1039
Yes	36	6.79	28	4.88	64
Total	530	100.0	573	100.0	1103
Given plain water					
No	463	87.35	478	83.42	941
Yes	67	12.64	95	16.57	162
Total	530	100.0	573	100.0	1103
Given honey/sugar water					
No	352	66.41	398	69.45	750
Yes	178	33.58	175	30.54	353
Total	530	100.0	573	100.0	1103
Given gripe water					
No	527	99.43	572	99.82	1099
Yes	3	0.56	1	0.17	4
Total	530	100.0	573	100.0	1103
Given fruit juice					
No	523	98.67	567	98.95	1090
Yes	7	1.32	6	1.04	13
Total	530	100.0	573	100.0	1103
Given infant formula					
No	491	92.64	544	94.93	1035
Yes	39	7.35	29	5.06	68
Total	530	100.0	573	100.0	1103
Given green tea					
No	521	98.30	564	98.42	1085
Yes	9	1.69	9	1.57	18
Total	530	100.0	573	100.0	1103
ghee butter					
No	514	96.98	554	96.68	1068
Yes	16	3.01	19	3.31	35
Total	530	100.0	573	100.0	1103

Ghutee					
No	480	90.56	511	89.17	991
Yes	50	9.43	62	10.82	112
Total	530	100.0	573	100.0	1103
Given rose water					
No	530	100.0	573	100.0	1103
Yes	0	0.00	0	0.00	0
Total	530	100.0	573	100.0	1103
Given other					
No	525	99.05	569	99.30	1094
Yes	5	0.94	4	0.69	9
Total	530	100.0	573	100.0	1103
Given nothing					
No	302	56.98	313	54.62	615
Yes	228	43.01	260	45.37	488
Total	530	100.0	573	100.0	1103

Table 4.19 manifests the "diets given to infants in first 3 days after birth" comparing both residence (urban and rural) of Baluchistan. It is perceived specially in some rural areas of Baluchistan that diet given to infants in first 3 days or immediately after birth (like green tea, honey/sugar water, ghee butter, rose water etc.) other than breastfeeding is helpful for digestive system of child. This argument is mostly given and justified by female elder members of family (like grandmother, aunties and women with more children etc.) preoccupied by traditional socio-economic and cultural beliefs and obviously lack of awareness about infant and young child feeding (IYCF) practices.

The analysis of the variable "diet given to infant after birth in first 3 days" with respect to residence hold that a great majority of the infants after birth have not been given milk (other than breast milk) (93.20%, 95.11%), plain water (87.35%, 83.42%), honey/sugar water (66.41%, 69.45%), gripe water (98.67%, 98.95%), infant formula (92.64%, 94.93%), green tea (98.30%, 98.42%), ghee butter (96.98%, 96.68%), ghuttee (90.56%, 89.17) and rose

water (100.0%, 100.0%) as diet to infants in first three days after birth, both in Baluchistan urban and rural respectively.

On the other hand, more than one fourth of the infants after birth have given honey/sugar water (33.58%, 30.54%) and less than one fourth of the infants' have been given plain water (12.64%, 16.57%), milk other breast milk (6.79%, 4.88%), ghee butter (3.01%, 3.31%) and ghuttee (9.43%, (10.82%)as diet to infants' in first three days after birth in both residence (urban and rural) of Baluchistan.

4.20. Place and Type of Delivery with Respect to Residence

Variable	Baluchistan Urban		Baluchistan Rural		Total
	Frequency	Percentage	Frequency	Percentage	
Place of delivery					
Respondent's home	558	65.64	892	85.76	1450
Other home	6	0.70	11	1.05	17
Government hospital	119	14	70	6.73	189
Rural health center (RHC)/Mother child health Center(MCH)	10	1.17	0	0.00	10
Other public sector	0	0.00	1	0.09	1
Private hospital/clinic	156	18.35	64	6.15	220
Other	1	0.11	2	0.19	3
Total	850	100.0	1040	100.0	1890
Delivery by caesarean section					
No	827	97.17	1038	98.85	1865
Yes	24	2.82	12	1.14	36
Total	851	100.0	1050	100.0	1901

Table 4.20 illustrates the place and type of delivery in Baluchistan. It is believed that proper medical attention and hygienic conditions during delivery reduce risk of complications and infections that may cause death or serious illness for the mother, the baby, or both. Hence, an important component in efforts to reduce the health risks of mothers and children is to increase the proportion of babies delivered in a safe and clean environment under the supervision of skilled health professionals (PDHS, 2012-13).

The analysis of variable "place of delivery with respect to residence" The above table indicates that a great majority of the deliveries in Balochistan rural (85.76%) took place in respondent's home as compared to Balochistan urban (65.64%) respectively. Subsequently, some of the deliveries took place in government's hospital (14%, 6.73%)

and private hospital/clinic (18.35%, 6.15%) in Balochistan urban and rural respectively. It is significant from the analyses that women of reproductive age particularly from rural areas have comparatively high rate of delivery at home than urban areas due to limited access and availability of maternal health care services provided by public health system in Balochistan.

The second variable" type of delivery with respect to residence" elaborate that a great majority of the deliveries were not by C section in Balochistan urban (97.17%) and rural (98.85%) respectively. In other words, a significant majority of the deliveries were happened in natural way in both residence (urban and rural) of Balochistan.

It is argued that high rates of C section have two serious implications. Firstly, it puts pressure on the hospital surgical equipment and human resource. Secondly it has a high physical and psychological cost on women going through it. There is a growing debate on extensive use of C section that can increase the probability of negative impact on mother and child health (Wagner, 2000). Furthermore, C section in first pregnancy puts an additional threat of adverse outcome in second pregnancy as mother with previous C section has a high risk of preipartum hysterectomy and placenta accrete, placenta Previa and very preterm birth (Perveen, 2011).

4.21. Timing of the Postnatal Checkup of Newborn and Person Who Performed Postnatal Checkup to Newborn.

Variable	Baluchistan Urban		Baluchistan Rural		Total
	Frequency	Percentage	Frequency	Percentage	
Respondent's health checked before discbarge					
No	63	30.88	38	43.18	101
Yes	141	69.11	50	56.81	191
Total	204	100.0	88	100.0	292
Respondent's health checked after discharge/delivery at home					
No	322	78.92	384	70.45	706
Yes	86	21.07	161	29.54	247
Total	408	100.0	545	100.0	953
Baby postnatal check within 2 months					
No	427	77.49	501	84.20	928
Yes	123	22.32	94	15.79	217
Don't know	1	0.18	0	0.00	1
Total	551	100.0	595	100.0	1146
Person who performed postnatal checkup					
Doctor	76	61.78	19	20.21	95
Nurse/midwife/LHV	10	8.13	2	2.12	12
DAI-Traditional birth attendant	30	24.39	66	70.21	96
Lady health worker	1	0.81	0	0.00	1
Homeopath	0	0.00	1	1.06	1
Dispenser/compounder	6	4.87	6	6.38	12
Total	123	100.0	94	100.0	217
Place baby was first checked					
Respondent's home	35	28.45	67	71.27	102
Other home	2	1.62	2	2.12	4
Government hospital	32	25.20	7	7.44	39
Rural health center(RHC)/Mother child health center(MCH)	5	4.06	2	2.12	7
Private hospital, clinic	49	39.83	16	17.02	65
Total	123	100.0	94	100.0	217

Table 4.21 details timing of postnatal checkup of newborn and person who performed postnatal checkup to newborn, comparing both residence (urban and rural) of Baluchistan. It is argued that newborn care is essential to reduce neonatal problems and death. To identify, manage, and prevent complications, it is recommended that the mother and the newborn have at least three checkups within seven days after delivery (WHO and UNICEF, 2009), which is considered a critical period for neonates and mothers.

The analysis of first variable "timing of the postnatal checkup of newborn" in this table demonstrate that a majority of the respondents' (newborn) (69.11%, 56.81%) health checked before discharge in Balochistan urban and rural respectively. Less than half of the respondents' (newborn) in Balochistan rural (43.18%) health did not check before discharge as compared to Baluchistan urban (30.88%) respectively. Similarly, the subsequent variable "respondents' health checked after discharge/delivery at home" revealed that a good majority of the respondent's (newborn) health not checked after discharge/delivery at home (77.49%, 84.20%) and less than one fourth of the respondents' (newborn) health checked after discharge/delivery at home (22.325, 15.79%) in both residence (urban and rural) of Baluchistan respectively.

By the same token, analysis of the next variable "haby postnatal check within 2 months" in this table reflect that a great majority of the babies did not receive postnatal checkup within 2 months (77.49%, 84.20%) while less than one fourth of the babies received postnatal checkup within 2 months (22.32%, 15.79%) in Balochistan urban and rural respectively.

The assessment of next variable "person who performed postnatal checkup" in this table indicate that majority of the postnatal checkups in Balochistan urban (61.78%) are performed by the Doctor in comparison with Baluchistan rural where less than one fourth

of the postnatal checkups (20.21%) are performed by the doctor, respectively. On the other hand, majority of the postnatal checkups are performed by DAI/TBA in Baluchistan rural (70.21%) as compared to Balochistan urban (24.39%). Similarly, the last variable "Place baby was first checked "in this table manifested that majority of the babies in Balochistan rural (71.27%) were first checked at respondent's home as compared to Baluchistan urban (28.455) while on the other hand, almost half of the babies in Balochistan urban (49.83%) were first checked at private hospital/clinic in comparison with Baluchistan rural (17.02%) respectively.

Pakistan Demographic and Health Survey 2012-13 presented evaluation based on timing of the first postnatal checkup after birth which viewed that overall, 43 percent of newborns received their first postnatal checkup within two days after birth. Among these newborns, one in four had a postnatal checkup less than one hour after birth, and 14 percent had a checkup between one and three hours after birth. In all, 41 percent of newborns had a postnatal checkup within 24 hours after birth. Fifty-four percent of newborns did not receive a postnatal checkup. Newborns delivered outside of a health facility were less likely to receive a postnatal checkup within the first week after birth (29 percent) than newborns delivered in a health facility (60 percent). Analysis consisted upon type of health provider of newborn's first postnatal checkup suggested that 34 percent of newborns received postnatal care in the two days following birth from a doctor, nurse, or midwife. An additional 8 percent of newborns received care from an auxiliary nurse or midwife (PDHS, 2102-13).

Pat two: Bivariate analysis of the data

Part two consists upon bivariate analysis, using crosstabulation technique and Chi-square to see the relationship between independent variables (educational attainments, total children ever born and financial status of the respondents) and dependent variable (antenatal care).

Table. 4.22. Cross-tabulation between highest educational level of the respondents and their use of antenatal care

Highest educational level	Antenatal care						Total
	No ANC	Doctor	Nurse/ Midwife	LHV	TBA	Doctor+ TBA	
No education	6593 (94.7%)	209 (3.0%)	34 (0.5%)	5 (0.1%)	110 (0.1%)	9 0.1%	6960 (85.5%)
primary	423 (84.3%)	57 (11.4%)	5 (1.0%)	1 (0.2%)	8 (1.6%)	8 (1.6%)	502 (6.1%)
Secondary	358 (79.2%)	72 (15.9%)	6 (1.3%)	1 (0.2%)	7 (1.5%)	8 (1.6%)	452 (5.5%)
Higher	176 (80.7%)	38 (17.4%)	1 (0.5%)	0 (0.0%)	1 (0.5%)	2 (0.9%)	218 (2.6%)
Total	7550 (92.8%)	376 (4.6%)	46 (0.6%)	7 (0.1%)	126 (1.5%)	27 (0.3%)	8132 (100%)
Pearson Chi-square value: 384.073a				df 15			Sig level .000

Table 4.22 illustrates the crosstabulation between educational attainments (independent variable) and antenatal care (dependent variable) in Balochistan. The data shows that majority of the respondents 6960 (85.5%) were illiterate while some of the respondents 1172 (14.5%) were literate. It also shows that major chunk of the respondents 7550 (92.8%)

did not receive any kind of antenatal care services. A very less percentage of the respondents did receive antenatal care services from Doctor 376 (4.6%), Nurse/Midwife 46 (0.6%), LHV 7 (0.1%) and Traditional birth attendant TBA 126 (1.5%), respectively.

It has been observed in this table that educational attainment of the respondents has positive impact on the access of respondents to the doctor during pregnancy. It is indicated that 209 (3.0%) of the respondents with no education, 57 (11.4%) of the respondents with primary education, 72 (15.9%) of the respondents with secondary education and 38 (17.4%) of the respondents with higher education have used doctor's facility, respectively during pregnancy. This shows that respondents with higher education approach more doctor during pregnancy.

Traditional birth attendants provide health facilities to the respondents during pregnancy and delivery care mostly in rural areas of Balochistan because of the unavailability of skilled health providers (Doctors, Nurse/Midwife. LHV) and some other socio-cultural barriers. Instead of this, TBA is not considered skilled and equipped person to handle complicated situation during pregnancy and delivery care. The association hetween respondents' educational level and TBA in this table suggested that respondents visits to TBA decreases with increasing their educational levels.

Pearson Chi-square was applied to see the relationship between respondents' highest educational level and access to antenatal health care. The Chi-square value: 384.073a and Sig level: .000 indicated that there is strong relationship between both variables. In view of the results, hypothesis is accepted.

Table. 4.23. Cross-tabulation between total children ever born of the respondents and their utilization of antenatal care

Total children ever born	Antenatal care						Total
	No ANC	Doctor	Nurse/ Midwife	LHV	TBA	Doctor+ TBA	
1-2	411 (65.7%)	150 (24.0%)	17 (2.7%)	3 (0.5%)	35 (5.6%)	10 (1.6%)	626 (7.6%)
3-4	1459 (89.6%)	114 (7.0%)	20 (1.2%)	3 (0.2%)	25 (1.5%)	7 (0.4%)	1628 (20.0%)
5-6	2100 (94.9)	61 (2.8%)	5 (0.2%)	1 (0.0%)	41 (1.9%)	6 (0.3%)	2214 (27.2%)
6+	3580 (97.7%)	51 (1.4%)	4 (0.1%)	0 (0.0%)	25 (0.7%)	4 (0.1%)	3664 (45.0%)
Total	7550 (92.8%)	376 (4.6%)	46 (0.6%)	7 (0.1%)	126 (1.5%)	27 (0.3%)	8132 (100%)
Pearson Chi-square value 907.607a			df 15				Sig level .000

Table 2.23 elucidates the Cross-tabulation between total children ever born (independent variable) and access to antenatal care (dependent variable) of the respondents in Balochistan. The analysis in this table explained that less than half of the respondents 3664 (45.0%) have 6+ children ever born while almost one fourth of the respondents 2214 (27.2%) have 5-6 children ever born. It is also shown that majority of the respondents 7550 (92.8%) have no access to antenatal care during pregnancy in Balochistan.

The Bivariate analysis of both variables suggested that respondents' utilization of antenatal care decreases when number of children ever born increases. It is indicated that 150 (24.0%) of the respondents with 1-2 children ever born, 114 (7.0%) of the respondents with 3-4 children ever born, 61 (2.8%) of the respondents with 5-6 children ever born and 51 (1.4%) of the respondents with 6+ children ever born utilize doctor's facility during pregnancy, respectively.

Chi-square was applied to see the interdependency of respondents' total children ever born and their access to antennal care. The Chi-square value (907.607a) and Sig level (.000 or 99%) show that both variables do affect each other and have inverse relation which means if respondents' number of children ever born increases then their utilization of antennal care would decrease.

Table. 4.24. Cross-tabulation between total children ever born of the respondents and tbeir use of antenatal care

Wealth index	Antenatal care						Total
	No ANC	Doctor	Nurse/ Midwife	LHV	TBA	Doctor+ TBA	
Poorest	2641 (96.0%)	43 (1.6%)	13 (0.5%)	0 (0.0%)	55 (2.0%)	0 (0.0%)	2752 (33.8%)
Poorer	1459 (93.2%)	63 (4.0%)	12 (0.8%)	1 (0.1%)	25 (1.6%)	5 (0.3%)	1565 (19.2%)
Middle	1576 (91.0%)	110 (6.4%)	13 (0.8%)	3 (0.2%)	20 (1.2%)	9 (0.5%)	1731 (21.2%)
Richer	1121 (90.8%)	77 (6.2%)	5 (0.4%)	3 (0.2%)	19 (1.5%)	10 (0.8%)	1235 (15.1%)
Richest	753 (88.7%)	83 (9.8%)	3 (0.4%)	0 (0.0%)	7 (0.8%)	3 (0.4%)	849 (10.4%)
Total	7550 (92.8%)	376 (4.6%)	46 (0.6%)	7 (0.1%)	128 (1.5%)	27 (0.3%)	8132 (100%)
Pearson Chi-square value 169.340a			df 20				Sig level .000

Table 4.24 indicates the cross-tabulation between wealth index (independent variable) and access to antenatal care (dependent variable) of the respondents in Balochistan). The data in this table displays that more than half of the respondents 4317 (53.08%) are poor (poorest + poorer), less than one of the respondents 1731 (21.2%) belong to middle, while almost one fourth of the respondents 2084 (25.6%) are rich (richer + richest), respectively.

Irrespective of wealth index, majority of the respondents 7550 (92.8%) have not utilized antenatal care. The relationship between wealth index and antenatal care of the respondents shows that there is variation in putting impact by financial status on the respondents'

utilization of antenatal care such as respondents' use of doctor's facility have been increased with rise in wealth index while on the other hand, rise in financial status of the respondents have decreased their approach to Nurse/Midwife and Traditional birth attendant (TBA) during pregnancy in Balochistan, respectively. The reason is, approach to doctor during pregnancy has been perceived most privileged service and people with high wealth index might mostly afford this service. This argument is support by statistics in this table which recommended that 43 (1.6%) of the respondents with poorest, 63 (4.0%) of the respondents with poorer, 110 (6.4%) of the respondents with middle, 77 (6.2%) of the respondents with richer and 83 (9.8%) of the respondents with richest, background have approach to doctor during pregnancy in Balochistan, respectively.

Chi-square was applied to see the interdependency of respondents' wealth index and their access to antennal care. The Chi-square value (169.340a) and Sig level (.000 or 99%) shows that both variables have strong relationship and do affect each other.

Chapter Five

MAJOR FINDINGS, DISCUSSION, CONCLUSION

The research study has been summarized in this cbapter. The findings of study are analyzed keeping in mind the theoretical framework and review of the literature. The important findings are associated with the larger sociological studies relative to Pakistani perspective generally and Balochistan particularly. Theoretical concepts have been used to analyze the findings. The key findings are summarized as under

5.1 Major Findings

5.1.1 The Socio-demographic and Economic Analysis of the Data

- Majority of the respondents 'age in Balochistan urban (80.63%) and rural (81.30%) were accommodated in the age cohort 20 to 49 respectively.
- Majority of the respondents in Balochistan rural (91.15%) and urban (79.35%) have no education at all.
- More than balf of the respondents (52.83%) reside in rural areas while less than half of the respondents (47.16%) live in urban areas of Balochisan.
- The Barauhi (31.19%), Pashtoon (29.71%) and Balochi (19.91%) are the three consecutive most inhabitant ethnic groups in Balochistan.
- More than half of the respondents in Balochistan urban (58.23%) and rural (56.71%) have 2 to 10 household members (listed).
- The high majority of the households (de jure) in Balochistan urban (84.61%) and rural (83.56%) have 0-3 number of children who aged 5 or under respectively.

- The great majority of respondents in Balochistan urban (84.09%) and rural (84.43%) have 1-2 eligible women in households.
- Majority of the respondents in Balochistan urban (70.88%) and rural (72%) have relationship to wife or husband as head of the households.
- Almost all the household's head in Balochistan urban (98.35%) and rural (99.20%) are male respectively.
- Comparatively, great majority of respondents in Balochistan rural (91.19%) cannot read at all as compared to Balochistan urban (78.39%) respectively.
- A great majority of the respondents in Balochistan rural (94.77%) and urban (86.71%) do not read newspaper or magazine at all.
- Comparatively, great majority of the households in Balochistan urban (99.29%) then rural (71.25%) have electricity.
- Majority of the households in Balochistan rural don't have radio (68.52%), Television (58.10%), refrigerator (75.42%), motorcycle/scooter (60.32%), car/truck (87.66%) and telephone (land-line) (92.94%) respectively.
- Majority of the households in Balochistan urban have radio (65.32%), Television (80.17%), refrigerator (58.81%) and motorcycle/scooter (52.55%) facility respectively.
- More than half of the respondents in Balochistan urban (54.48%) and less than one fourth of the respondents in Balochistan rural (17.54%) use piped into dwelling as source of drinking water.

- High majority of the respondents in Balochistan urban (78.38%) and more than one fourth of the respondents in Balochistan rural (35.92%) get drinking water from "on promises" respectively.
- More than one fourth of the respondents in Balochistan rural (35.03%) have no toilet facility in their households.
- More than half of households (54.08%) in Balochistan rural use wood as cooking fuel instead of the province abundant in natural resources (like natural gas).

5.1.2 Obstetric Analysis of the Data

5.1.2.1 Antenatal Care

- Majority of the respondents in Balochistan rural (77.55%) don't visit doctor during pregnancy while almost half of the respondents in Balochista urban (50.27%) visit doctor during pregnancy.
- A high majority of the respondents do not visit nurse/midwife/LHV (95.46%, 95.97%), DAI-TBA (90.19%, 84.08%) and lady health worker (98.91%, 99.83%) during pregnancy in Balochistan urban and rural respectively.
- A significant majority of the respondents don't receive antenatal health care facilities at Government hospitals (68.54%, 72.98%), rural health centers(RHC)/Mother child health centers (96.14%, 99.19%) and BHC/FWC (99.10%, 99.19%) in Balochistan urban and rural respectively.
- More than half of the respondents in Balochistan urban (58.62%) and less than half the respondents in Balochistan rural (38.83%) have no antenatal visits during pregnancy.

- Less than half of the respondents in Balochistan urban (44.04%) and rural (42.74%) get antenatal checkup in less than four months.
- Majority of the respondents in Balochistan urban (62.27%) have weighted during pregnancy while more than half of the respondents in Balochistan rural (55.87%) were not weighed during pregnancy.
- Majority of the respondents' blood pressure in Balochistan urban (86.35%) and rural (64.51%) were taken during pregnancy.
- Majority of the respondents' blood sample in Balochistan rural (67.33%) were not taken during pregnancy while more than half of the respondents' blood sample in Balochistan urban (53.37%) were taken during pregnancy.
- Majority of the respondents' urine sample in Balochistan urban (65.77%) were taken during pregnancy while more than half of the respondents' urine sample in Balochistan rural (52.01%) were not taken during pregnancy.
- Almost half of the respondents in Balochistan urban (49.25%) and rural (50.40%) were not told about pregnancy complications.
- High majority of the respondents were not given or bought iron tablets/syrup (72.77%, 85.42%) and drugs for intestinal parasites (97.81%, 98.32%) during pregnancy in Balochistan urban and rural respectively.

5.1.2.2 Delivery Care

- A significant majority of the respondents were not provided assistance at the time of birth by the doctor (68.82%, 87.19%), nurse/midwife/LHV (85.88%, 96.15%) and lady health worker (99.88%, 100%) in Balochistan urban and rural respectively.

- A high majority of the respondents in Balochistan rural (77.85%) and more than half of the respondents in Balochistan urban (59.88%) were provided assistance at the time of birth by DAI-Traditional birth attendants respectively.
- Majority of the deliveries in Balochistan rural (85.76%) and urban (65.64%) took place in respondent's home.
- High majority of the respondent's deliveries in Balochistan urban (97.17%) and rural (98.85%) were not by C-section.

5.1.2.3 Postnatal care

- Infants' duration of breastfeeding revealed that majority of the respondents in Balochistan urban (68.04%) and rural (71.02%) ever breastfed, not currently breastfeeding, their children.
- Majority of the children's size at birth in Balochistan urban (74.35%) and rural (70.05%) was average.
- A high majority of the respondents' children in Balochistan urban (82.04%) and rural (91.80%) not weighed at time of birth.
- The analyses of complementary food given to child after birth indicated that significant majority of the infants after birth in Balochistan urban (80.50%) and rural (89.09%) did not drink from bottle with nipple yesterday/last night.
- Majority of the infants after birth in Balochistan urban (62.69%) and rural (67.11%) did eat solid, semi-solid or soft food yesterday.
- The assessment of respondent's visits to health care provider after delivery suggested that majority of the respondents in Balochistan urban (58.57%) and rural (64.53%) did not receive postnatal checkups after delivery.

- More than half of the respondents in Balochistan urban (57.70%) are checked by the doctor after delivery while majority of the respondents in Balochistan rural (69.52%) are checked by DAI-Traditional birth attendants after delivery.
- A high majority of the respondents in Balochistan rural (94.27%) and urban (89.61%) did not receive vitamin A dose in first 2 months after delivery.
- The analysis of diet given to infants in first 3 days after birth denoted that a great majority of the infants after birth have not been given milk (other than breast milk) (93.20%, 95.11%), plain water (87.35%, 83.42%), honey/sugar water (66.41%, 69.45%), gripe water (98.67%, 98.95%), infant formula (92.64%, 94.93%), green tea (98.30%, 98.42%), ghee butter (96.98%, 96.68%), ghuttee (90.56%, 89.17) and rose water (100.0%, 100.0%) as diet to infants in first three days after hirth, both in Baluchistan urban and rural respectively.
- Majority of the respondents' health in Balochistan urban (69.11%) and rural (56.81%) cbecked before discharge.
- Majority of the respondents' health in Balochistan urban (69.11%) and rural (56.81%) not checked after discharge/delivery at home.
- Majority of the babies in Balochistan urban (77.49%) and rural (84.20%) did not receive postnatal checkup within 2 months after birth.
- Majority of the respondents' baby in Balochistan rural (71.27%) was first checked at respondent's home while less than half of the respondents' baby in Balochistan urban (39.83%) was first checked private/clinic after birth respectively.

5.2 Conclusion

Health being important indicator of social development of people and part of basic human rights, it is obligatory on the health care providing authorities to provide basic health care facilities to people irrespective of their social identities. It is articulated from analyzing maternal health care situation in Pakistan generally and Baluchistan particularly that there are couple of important factors like socio-demographic, economic and obstetric variables which significantly influence women's knowledge, access and utilization of maternal health care services. The descriptive and comparative analysis of Balochistan with other regions in the country proposed that women in Balochistan, are confronted with severe conditions of maternal health care and this argument is supported by a statement from provincial nutrition program which stated that a total of 785 mothers lose their lives during pregnancy in Balochistan out of one hundred thousand as compared to 272 in the rest of the country.

Findings of the study also suggested that women living in rural areas, comparatively have been more deprived of and have less access to maternal health care services than women living in urban arears of Balochistan due to the centralization of health resources to urban areas, the poor health infrastructures, reluctance of midwives/LHV to visit remote rural areas in the provinces due to security issues and less supportive socio-cultural environment.

5.3 Suggestions

It was beyond the scope of this study and capacity of researcher to address the complete issue of maternal health care. However, best efforts have been taken to point out some important issues that are relevant particularly and existing in the province of Balochistan.

As study was organized with limited resources, some important issues are identified that can be overcome with effective planning, strategy and allocation of resources. Following measures are suggested for further course of action

- The timing and number of visits by heath care provider during antenatal care have significant effects on reducing complications during pregnancy and delivery. The availability and assured services of doctors, nurses and midwives/LHV particularly in Balochistan rural would reduce the health risks during pregnancy of the women with reproductive age. This will enhance their capacity to accomplish harmonious transition to delivery phase.
- Skilled birth attendants during delivery and the place of occurrence of delivery are recognized most crucial factors in decreasing neonatal and maternal mortality. The provincial government in coordination with public health institutions may take initiatives on emergency basis to ensure the availability of these services. This will help control over and lessen maternal and neonatal mortality ratio in the Baluchistan.
- The postnatal period is also crucial factor in maternal health care. The provincial health department may ensure the availability of postnatal checkups by health care providers. It might he helpful in reducing maternal and neonatal morbidity/mortality while promoting the wellbeing of mother and new born in Balochistan.
- Federal government along in coordination with provincial governments and health institutions should implement in the goal 4 and 5 of MDGs postulated through SDGs (2030) by global community to reduce the maternal and neonatal mortality

- Socio-economic and political empowerment of women would be helpful in bettering the wellbeing of women. Women's control over socio-economic resources would enable them to be aware and participate in health-related issues.

References

Agha, Sohail, & Carton, Thomas W. (2011). Determinants of institutional delivery in rural Jhang, Pakistan. *International journal for equity in health, 10*(1), 31.

Agha, Sohail, & Tappis, Hannah. (2016). The timing of antenatal care initiation and the content of care in Sindh, Pakistan. *BMC pregnancy and childbirth, 16*(1), 190.

Ali, Moazzam, Bhatti, Mohammad Ayaz, & Kuroiwa, Chushi. (2008). Challenges in access to and utilization of reproductive health care in Pakistan. *J Ayub Med Coll Abbottabad, 20*(4), 3-7.

Amin, Ruhul, Shah, Nirali M, & Becker, Stan. (2010). Socioeconomic factors differentiating maternal and child health-seeking behavior in rural Bangladesh: A cross-sectional analysis. *International journal for equity in health, 9*(1), 9.

Amini, Saeid B, Catalano, Patrick AA, & Mann, Leon I. (1996). Effect of prenatal care on obstetrical outcome. *Journal of Maternal-Fetal Medicine, 5*(3), 142-150.

Bhutta, Zulfiqar A, Chopra, Mickey, Axelson, Henrik, Berman, Peter, Boerma, Ties, Bryce, Jennifer, . . . Daelmans, Bernadette. (2010). Countdown to 2015 decade report (2000–10): taking stock of maternal, newborn, and child survival. *The Lancet, 375*(9730), 2032-2044.

Bhutta, Zulfiqar A, Das, Jai K, Rizvi, Arjumand, Gaffey, Michelle F, Walker, Neff, Horton, Susan, Group, The Lancet Nutrition Interventions Review. (2013). Evidence-based interventions for improvement of maternal and child nutrition: what can be done and at what cost? *The lancet, 382*(9890), 452-477.

Bhutta, Zulfiqar Ahmed. (2004). *Maternal and child health in Pakistan: challenges and opportunities*: Oxford University Press, USA.

Bloom, Shelah S, Wypij, David, & Gupta, Monica Das. (2001). Dimensions of women's autonomy and the influence on maternal health care utilization in a north Indian city. *Demography, 38*(1), 67-78.

Campbell, Jacquelyn C. (2002). Health consequences of intimate partner violence. *The lancet, 359*(9314), 1331-1336.

Campbell, Oona MR, Graham, Wendy J, & group, Lancet Maternal Survival Series steering group. (2006). Strategies for reducing maternal mortality: getting on with what works. *The lancet, 368*(9543), 1284-1299.

Carolan, Mary, & Frankowska, Dorota. (2011). Advanced maternal age and adverse perinatal outcome: a review of the evidence. *Midwifery, 27*(6), 793-801.

Chakraborty, Nitai, Islam, M Ataharul, Chowdhury, Rafiqul Islam, Bari, Wasimul, & Akhter, Halida Hanum. (2003). Determinants of the use of maternal health services in rural Bangladesh. *Health promotion international, 18*(4), 327-337.

Chaudhary, P. (2007). Prevalence of gender-based violence among pregnant women at paropakar maternity and women Hospital. *Kathmandu: FPAN.*

Chowdhury, Ziaul Islam. (2009). The effect of antenatal care on infant malnutrition in Bangladesh: secondary analysis of demographic and health survey data: Umeå International School of Public Health.

Chubike, Ndie Elkenah, & Constance, Idam. (2013). Demographic characteristics of women on the utilization of Maternal Health Services at Abakaliki Urban. *International Journal of Nursing and Midwifery, 5*(8), 139-144.

Clemens, Michael A, Kenny, Charles J, & Moss, Todd J. (2007). The trouble with the MDGs: confronting expectations of aid and development success. *World development, 35*(5), 735-751.

Connell, Sarah Elizabeth. (2011). Maternal mortality in Cambodia: efforts to meet the millennium development goal for maternal health.

Deuba, Keshab, Mainali, Anustha, Alvesson, Helle M, & Karki, Deepak K. (2016). Experience of intimate partner violence among young pregnant women in urban slums of Kathmandu Valley, Nepal: a qualitative study. *BMC women's health, 16*(1), 11.

Durrant, Valerie L, & Sathar, Zeba A. (2000). *Greater Investments in Children through Women's Empowerment: A Key to Demographic Change in Pakistan?* : Population Council.

Elo, Irma T. (1992). Utilization of maternal health-care services in Peru: the role of women's education. *Health transition review*, 49-69.

Fawole, Olufunmilayo I, & Adeoye, Ikeola A. (2015). Women's status within the household as a determinant of maternal health care use in Nigeria. *African health sciences, 15*(1), 217-225.

Fort, Alfredo L, Kothari, Monica T, & Abderrahim, Noureddine. (2006). Postpartum care: levels and determinants in developing countries.

Gabrysch, Sabine, & Campbell, Oona MR. (2009). Still too far to walk: literature review of the determinants of delivery service use. *BMC pregnancy and childbirth, 9*(1), 34.

Ghaffar, Abdul, Pongponich, Sathirakorn, Ghaffar, Najma, & Mehmood, Tahir. (2015). Factors associated with utilization of antenatal care services in Balochistan province of Pakistan: An analysis of the Multiple Indicator Cluster Survey (MICS) 2010. *Pakistan journal of medical sciences, 31*(6), 1447.

Gitimu, Anne, Herr, Christine, Oruko, Happiness, Karijo, Evalin, Gichuki, Richard, Ofware, Peter,y Nyagero, Josephat. (2015). Determinants of use of skilled birth attendant at delivery in Makueni, Kenya: a cross sectional study. *BMC pregnancy and childbirth, 15*(1), 9.

Govindasamy, Pavalavalli, & Ramesh, BM. (1997). Maternal education and the utilization of maternal and child health services in India.

Graham, Wendy J, Bell, Jacqueline S, & Bullough, Colin HW. (2001). Can skilled attendance at delivery reduce maternal mortality in developing countries? *Safe motherhood strategies: a review of the evidence.*

Guliani, Harminder, Sepehri, Ardeshir, & Serieux, John. (2012). What impact does contact with the prenatal care system have on women's use of facility delivery? Evidence from low-income countries. *Social science & medicine, 74*(12), 1882-1890.

Gunathunga, Wasantha, & Fernando, Dulitha N. (2010). Assessment of community maternal care performance of public health midwives of a province in Sri Lanka: a multi-method approach. *Southeast Asian J Trop Med Public Health, 31*(2), 310-318.

Gwatkin, Davidson R, Rutstein, Shea, Johnson, Kiersten, Suliman, Eldaw, Wagstaff, Adam, & Amouzou, Agbessi. (2007). *Socio-economic differences in health,*

nutrition, and population within developing countries: Washington, DC, World Bank.

Hafeez, Sabeeha. (1998). *Sociology of power dynamics in Pakistan*: Book City.

Haq, Rashida, & Arshad, Nabeela. (2007). Poverty and Access to Maternal Health Care Services in Pakistan: Evidence from Perception Based Data.

Hazarika, Indrajit. (2011). Factors that determine the use of skilled care during delivery in India: implications for achievement of MDG-5 targets. *Maternal and child health journal, 15*(8), 1381-1388.

Hodgins, Stephen, & D'Agostino, Alexis. (2014). The quality–coverage gap in antenatal care: toward better measurement of effective coverage. *Global Health: Science and Practice, 2*(2), 173-181.

Hogan, Margaret C, Foreman, Kyle J, Naghavi, Mohsen, Ahn, Stephanie Y, Wang, Mengru, Makela, Susanna M, . . . Murray, Christopher JL. (2010). Maternal mortality for 181 countries, 1980–2008: a systematic analysis of progress towards Millennium Development Goal 5. *The lancet, 375*(9726), 1609-1623.

Hunte, Pamela A, & Sultana, Farhat. (1992). Health-seeking behavior and the meaning of medications in Balochistan, Pakistan. *Social Science & Medicine, 34*(12), 1385-1397.

Hussein, Julia, Braunholtz, David, & D'Ambruoso, Lucia. (2008). Maternal health in the year 2076. *The Lancet, 371*(9608), 203-204.

Khan, Muhammad Tahir, Hashmi, Shahkamal, Zaheer, Sidra, Aslam, Syeda Kanwal, Khan, Naveed Ali, Aziz, Hina, Sbafique, Kashif. (2015). Burden of waterpipe smoking and chewing tobacco use among women of reproductive age group using

data from the 2012–13 Pakistan Demographic and Health Survey. BMC public health, 15(1), 1113.

Khan, Ayesha. (1999). Mobility of women and access to health and family planning services in Pakistan. *Reproductive health matters, 7*(14), 39-48.

Khan, Rana Ejaz Ali, & Noreen, Sara. (2016). Household Choice of Public versus Private Health Institution for Maternal Health-Care: A Case Study of Bahawalpur (Pakistan). *Pakistan Journal of Commerce & Social Sciences, 10*(3).

Khan, Shahzad Ali, Zaman, Tabinda, Shams, Bushra, Shehzad, Majid, Yaqoob, Aashifa, Hussain, Ghulam, . . . Sattar, Abdul. (2012). "How far can I go? Social Mobility of CMWs in AJK" is a project funded by the.

Khan, Zubeda, Soomro, Ghulam Y, Soomro, Samina, & Hafeez, Sabeeha. (1994). Mother's Education and Utilisation of Health Care Services in Pakistan [with Comments]. *The Pakistan Development Review, 33*(4), 1155-1166.

Kost, Kathryn, Landry, David J, & Darroch, Jacqueline E. (1998). Predicting maternal behaviors during pregnancy: does intention status matter? *Family planning perspectives*, 79-88.

Lawn, Joy E, Cousens, Simon, Zupan, Jelka, & Team, Lancet Neonatal Survival Steering. (2005). 4 million neonatal deaths: when? Where? Why? *The lancet, 365*(9462), 891-900.

Lee, Shoo K, McMillan, Douglas D, Ohlsson, Arne, Pendray, Margaret, Synnes, Anne, Whyte, Robin, . . . Sale, Joanna. (2000). Variations in practice and outcomes in the Canadian NICU network: 1996–1997. *Pediatrics, 106*(5), 1070-1079.

Long, Qian, Zhang, Tuohong, Xu, Ling, Tang, Shenglan, & Hemminki, Elina. (2010). Utilisation of maternal health care in western rural China under a new rural health insurance system (New Co-operative Medical System). *Tropical Medicine & International Health, 15*(10), 1210-1217.

Ludermir, Ana Bernarda, Lewis, Glyn, Valongueiro, Sandra Alves, de Araújo, Thália Velho Barreto, & Araya, Ricardo. (2010). Violence against women by their intimate partner during pregnancy and postnatal depression: a prospective cohort study. *The Lancet, 376*(9744), 903-910.

Mahmood, Naushin, & Bashir, Saima. (2012). Applying an equity lens to maternal health care practices in Pakistan. *Working Papers & Research Reports, 2012*.

Majrooh, Muhamınad Ashraf, Hasnain, Seema, Akram, Javaid, Siddiqui, Arif, & Memon, Zahid Ali. (2014). Coverage and quality of antenatal care provided at primary health care facilities in the 'Punjab'province of 'Pakistan'. *Plos one, 9*(11), e113390.

Majrooh, Muhammad Ashraf, Hasnain, Seema, Akram, Javaid, Siddiqui, Arif, Shah, Fatimah, & Memon, Zahid. (2013). Accessibility of antenatal services at primary healthcare facilities in Punjab, Pakistan. *Journal of Pakistan medical association, 63*(4), 60.

Makowiecka, Krystyna, Achadi, Endang, Izati, Yulia, & Ronsmans, Carine. (2007). Midwifery provision in two districts in Indonesia: how well are rural areas served? *Health Policy and Planning, 23*(1), 67-75.

Mbuagbaw, Lawrence, Medley, N, Darzi, AJ, Richardson, M, Garga, K Habiba, & Ongolo-Zogo, P. (2014). Health system and community level interventions for improving antenatal care coverage and health outcomes. *Cochrane database Syst. Rev, 12*(12).

McClure, Elizabeth M, Pasha, Omrana, Goudar, Shivaprasad S, Chomba, Elwyn, Garces, Ana, Tshefu, Antoinette, Wright, Linda L. (2011). Epidemiology of stillbirth in low-middle income countries: A Global Network Study. *Acta obstetricia et gynecologica Scandinavica, 90*(12), 1379-1385.

Midhet, Farid, Becker, Stan, & Berendes, Heinz W. (1998). Contextual determinants of maternal mortality in rural Pakistan. *Social Science & Medicine, 46*(12), 1587-1598.

Mohammed, Faiza, Musa, Abdulbasit, & Amano, Abdella. (2016). Prevalence and determinants of unintended pregnancy among pregnant woman attending ANC at Gelemso General Hospital, Oromiya Region, East Ethiopia: a facility based cross-sectional study. *BMC women's health, 16*(1), 56.

Montgomery, Ann L, Fadel, Shaza, Kumar, Rajesh, Bondy, Sue, Moineddin, Rahim, & Jha, Prabhat. (2014). The effect of health-facility admission and skilled birth attendant coverage on maternal survival in India: a case-control analysis. PloS one, 9(6), e95696.

Montesanti, Stephanie Rose. (2011). Cultural perceptions of maternal illness among Khmer women in Krong Kep, Cambodia. *vis-à-vis: Explorations in Anthropology, 11*(1).

Mumtaz, Zubia, & Salway, Sarah M. (2007). Gender, pregnancy and the uptake of antenatal care services in Pakistan. *Sociology of health & illness, 29*(1), 1-26.

Mumtaz, Zubia, Salway, Sarah, Shanner, Laura, Bhatti, Afshan, & Laing, Lory. (2011). Maternal deaths in Pakistan: intersection of gender, caste, and social exclusion. *BMC International Health and Human Rights, 11*(2), S4.

Mumtaz, Zubia, Salway, Sarah, Shanner, Laura, Zaman, Shakila, & Laing, Lory. (2012). Addressing disparities in maternal health care in Pakistan: gender, class and exclusion. *BMC pregnancy and childbirth, 12*(1), 80.

Mustafa, Mudasir, Zakar, Rubeena, Zakar, Muhammad Zakria, Chaudhry, Ashraf, & Nasrullah, Muazzam. (2017). Under-Five Child Mortality and Morbidity Associated with Consanguineous Child Marriage in Pakistan: Retrospective Analysis using Pakistan Demographic and Health Surveys, 1990–91, 2006–07, 2012–13. Maternal and child health journal, 21(5), 1095-1104.

Nabukera, Sarah K, Witte, Kim, Muchunguzi, Charles, Bajunirwe, Francis, Batwala, Vincent K, Mulogo, Edgar M, . . . Salihu, Hamisu M. (2006). Use of postpartum health services in rural Uganda: knowledge, attitudes and barriers. *Journal of community health, 31*(2), 84-93.

Nair, M, Ariana, P, & Webster, P. (2012). What influences the decision to undergo institutional delivery by skilled birth attendants? A cohort study in rural Andhra Pradesh, India. *Rural Remote Health, 12*(4), 2311-2311.

Nanda, Geeta, Switlick, Kimberly, & Lule, Elizabeth. (2005). Accelerating progress towards achieving the MDG to improve maternal health: a collection of promising approaches. *HNP, WorldBank.*

Nasrullah, Muazzam, & Xiang, Huiyun. (2008). The epidemic of injuries in Pakistan--a neglected problem. *JPMA. The Journal of the Pakistan Medical Association, 58*(8), 420.

Nasrullah, Muazzam, Zakar, Rubeena, Zakar, Muhammad Zakria, Abbas, Safdar, & Safdar, Rabia. (2015). Circumstances leading to intimate partner violence against women married as children: a qualitative study in Urban Slums of Lahore, Pakistan. *BMC international health and human rights, 15*(1), 23.

Nations, U. (2012). *The Millennium development goals report, 2012.* New York: United Nations.

Nigussie, Mesfin, Mariam, Damen Haile, & Mitike, Getnet. (2004). Assessment of safe delivery service utilization among women of childbearing age in north Gondar Zone, North West Ethiopia. *Ethiopian Journal of health development, 18*(3), 145-152.

NIPS. (2008). *Pakistan demographic and Health Survey 2006-07.* Islamabad: National Istitute of population Studies and Macro Inc.

NIPS. (2013). *Pakistan demographic and health survey 2012-13.* Isalmabad: Calverton; Maryland, USA and ICF International.

Nisar, N, & White, F. (2003). Factors affecting utilization of antenatal care among reproductive age group women (15-49 years) in an urban squatter settlement of Karachi. *JPMA. The Journal of the Pakistan Medical Association, 53*(2), 47-53.

Organization, World Health. (1998). Postpartum care of the mother and newborn: a practical guide: report of a technical working group.

Organization, World Health. (2005). *The World Health Report 2005: Make every mother and child count*: World Health Organization.

Organization, World Health. (2010a). Trends in maternal mortality: 1990 to 2008. Estimates developed by WHO, UNICEF, UNFPA and The World Bank. *Trends in maternal mortality: 1990 to 2008. Estimates developed by WHO, UNICEF, UNFPA and The World Bank.*

Organization, World Health. (2010b). WHO technical consultation on postpartum and postnatal care.

Organization, World Health, & UNICEF. (2012). Trends in maternal mortality: 1990 to 2010: WHO, UNICEF, UNFPA and The World Bank estimates.

Organization, World Health, & Unicef. (2014). Trends in maternal mortality: 1990 to 2013: estimates by WHO, UNICEF, UNFPA, The World Bank and the United Nations Population Division.

Orr, Suezanne T, & Miller, C Arden. (1997). Unintended pregnancy and the psychosocial well-being of pregnant women. *Women's health issues, 7*(1), 38-46.

Osrin, David, Tumbahangphe, Kirti M, Shrestha, Dej, Mesko, Natasha, Shrestha, Bhim P, Manandhar, Madan K, . . . Anthony, M de L. (2002). Cross sectional, community based study of care of newborn infants in Nepal. *Bmj, 325*(7372), 1063.

Prusty, Ranjan Kumar, Buoy, Somethea, Kumar, Prahlad, & Pradhan, Manas Ranjan. (2015). Factors associated with utilization of antenatal care services in Cambodia. *Journal of Public Health, 23*(5), 297-310.

Prusty, Ranjan Kumar, Gouda, Jitendra, & Pradhan, Manas Ranjan. (2015). Inequality in the utilization of maternal healthcare services in Odisha, India. *International Journal of Population Research, 2015*.

Puri, Mahesh. (2009). *Unintended pregnancy among young couples in Nepal: Determinants and consequences of unintended pregnancy*: VDM Publishing.

Purohit, Brijesh C. (2010). Efficiency of health care system at the sub-state level in Madhya Pradesh, India. *Social work in public health, 25*(1), 42-58.

Ram Jat, Tej. (2014). *Maternal health and health care in Madhya Pradesh state of India: an exploration using a human rights lens.* Umeå universitet.

Rizvi, Arjumand, Bhatti, Zaid, Das, Jai K, & Bhutta, Zulfiqar A. (2015). Pakistan and the millennium development goals for maternal and child health: progress and the way forward. *Paediatrics and international child health, 35*(4), 287-297.

Sarfraz, Mariyam, & Hamid, Saima. (2014). Challenges in delivery of skilled maternal care–experiences of community midwives in Pakistan. *BMC pregnancy and childbirth, 14*(1), 59.

Say, Lale, & Raine, Rosalind. (2007). A systematic review of inequalities in the use of maternal health care in developing countries: examining the scale of the problem and the importance of context. *Bulletin of the World Health Organization, 85*(10), 812-819.

Schmiege, Sarah, & Russo, Nancy Felipe. (2005). Depression and unwanted first pregnancy: longitudinal cohort study. *Bmj, 331*(7528), 1303.

Senarath, Upul, Godakandage, Sanjeeva SP, Jayawickrama, Hiranya, Siriwardena, Indika, & Dibley, Michael J. (2012). Determinants of inappropriate complementary

feeding practices in young children in Sri Lanka: secondary data analysis of Demographic and Health Survey 2006–2007. Maternal & child nutrition, 8(s1), 60-77.

Shariff, Abusaleh, & Singh, Geeta. (2002). Determinants of maternal health care utilisation in India: evidence from a recent household survey: National Council of Applied Economic Research New Dehli.

Shah, S. A. (2014). *Maternal and child mortality rate remains high in Balochistan.* Islamabad, Pakistan: Dawn, News.

Simkhada, Bihha, Porter, Maureen A, & Van Teijlingen, Edwin R. (2010). The role of mothers-in-law in antenatal care decision-making in Nepal: a qualitative study. *BMC pregnancy and childbirth, 10*(1), 34.

Simoes, Elisabeth, Kunz, Siegfried, Bosing-Schwenkglenks, Margarete, & Schmahl, Friedrich W. (2005). Association between method of delivery, puerperal complication rate and postpartum hysterectomy. *Archives of gynecology and obstetrics, 272*(1), 43-47.

Simoes, Elisabeth, Kunz, Siegfried, Münnich, Ralf, & Schmahl, Friedrich Wilhelm. (2006). Association between maternal occupational status and utilization of antenatal care. *International archives of occupational and environmental health, 79*(1), 75-81.

Singh, Susheela, Fetters, Tamara, Gebreselassie, Hailemichael, Abdella, Ahmed, Gebrehiwot, Yirgu, Kumbi, Solomon, & Audam, Suzette. (2010). The estimated incidence of induced abortion in Ethiopia, 2008. *International perspectives on sexual and reproductive health*, 16-25.

Social, Pakistan. (2005). Living Standards Measurement Survey 2004-05. *Government of Pakistan, Statistics Division, Federal Bureau of Statistics. Islamabad.*

Starrs, Ann M. (2006). Safe motherhood initiative: 20 years and counting. *The Lancet, 368*(9542), 1130-1132.

Stephenson, Rob, Baschieri, Angela, Clements, Steve, Hennink, Monique, & Madise, Nyovani. (2006). Contextual influences on the use of health facilities for childbirth in Africa. *American journal of public health, 96*(1), 84-93.

Tawiah, E. (2007). *Maternal health in five Sub-Saharan African countries. Poster Presentation at the Fifth African Population Conference.* Paper presented at the 2007); 10-14 December, Arusha Interntional conference center, Arusha.

Tehrani, Fahimeh Ramezani, Simbar, Masoumeh, & Abedini, Mehrandokht. (2011). Reproductive morbidity among Iranian women; issues often inappropriately addressed in health seeking behaviors. *BMC Public Health, 11*(1), 863.

ten Hoope-Bender, Petra, Campbell, James, Fauveau, Vincent, & Matthews, Zoë. (2011). The state of the world's midwifery 2011: delivering health, saving lives. *International Journal of Gynecology & Obstetrics, 114*(3), 211-212.

Villar, José, Bergsjo, Per, Carroli, Guillermo, & Gulmezoglu, Métin. (2003). The WHO new antenatal care model: the way forward. *Acta obstetricia et gynecologica Scandinavica, 82*(11), 1065-1066.

Warren, Charlotte, & Mwangi, Annie. (2008). *Obstetric Fistula: Can Community Midwives Make a Difference?: Findings from Four Districts in Kenya*: Population Council.

westeneng, J. (2008, October). Matester Thesis. *Linking Wealth and Health: Risk Factors for and Coping with Maternal Health shocks in Indonesia*: Radboud University Nijmegen, Netherlands.

WHO, UN. (2004). Children's Fund, UN Population Fund. Maternal mortality in 2000: estimates developed by WHO, UNICEF: UNFPA. Geneva: World Health Organization.

Winkvist, Anna, & Akhtar, Humaira Zareen. (2000). God should give daughters to rich families only: attitudes towards childbearing among low-income women in Punjab, Pakistan. *Social Science & Medicine, 51*(1), 73-81.

Wong, Emelita L, Popkin, Barry M, Guilkey, David K, & Akin, John S. (1987). Accessibility, quality of care and prenatal care use in the Philippines. *Social science & medicine, 24*(11), 927-944.

Yunus, Asma, Iqbal, Sarosh, Munawar, Riffat, Zakar, Rubeena, Mushtaq, Shahzad Khaver, Sadaf, Fozia, & Usman, Ahmad. (2013). Determinants of Postnatal Care Services Utilization in Pakistan-Insights from Pakistan Demographic and Health Survey (PDHS) 2006-07. *Middle-East Journal of Scientific Research, 18*(10), 1440-1447.

Zakar, Rubeena, Nasrullah, Muazzam, Zakar, Muhammad Z, & Ali, Hussain. (2016). The association of intimate partner violence with unintended pregnancy and pregnancy loss in Pakistan. *International Journal of Gynecology & Obstetrics, 133*(1), 26-31.

Zakar, Rubeena, Zakar, Muhammad Z, Mikolajczyk, Rafael, & Krämer, Alexander. (2012). Intimate partner violence and its association with women's reproductive health in Pakistan. *International journal of gynecology & Obstetrics, 117*(1), 10-14.