The Determinants of Adolescent Pregnancy in Pakistan

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The Determinants of Adolescent Pregnancy in Pakistan

A thesis submitted in partial fulfillment of the requirement for the degree of
Master of Science in Public Health

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Yemen

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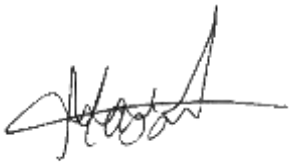

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Abstract

Background
Adolescent pregnancy poses a notable public health issue globally, impacting both developed and developing countries and giving rise to human rights concerns related to education and health. The unpreparedness of adolescent girls for pregnancy and childbirth makes them vulnerable to health complications and negative consequences. In Pakistan, adolescent pregnancy often occurs within the context of marriage where 29% of women are married by age 18 and the adolescent pregnancy based on the Pakistan Demographic and Health Survey 2017-18.

Objectives
To explore determinants of adolescent pregnancy in Pakistan and identify effective interventions.

Study method
A qualitative study based on a literature review was guided by an adapted UNFPA socio-ecological framework.

Findings
The literature review reveals that adolescent pregnancy in Pakistan is influenced by interconnected factors at various levels. Poverty, societal norms, and religious beliefs contribute to child marriage and early pregnancy. Gender inequality and limited education also play significant roles. Access to contraception is hindered by strict laws and biased healthcare attitudes. Comprehensive sexual education is lacking, leading to inadequate SRH awareness. Adolescent pregnancy commonly takes place within the context of marriage in Pakistan.

Conclusion and recommendation
Interconnected factors influence adolescent pregnancy in Pakistan, including poverty, child marriage, societal norms, educational attainment, and gender inequality. Strict laws and social taboos hinder contraception access. Effective interventions from South Asia could inform a community-based approach to addressing adolescent pregnancy in Pakistan.

Keywords: Adolescent pregnancy, Pakistan, determinants, south Asia

Word count: 10769

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Abbreviations

ANC	Antenatal Care
ASFR	Age-Specific Fertility Rate
BHUs	Basic Health Units
CCT	Conditional Cash Transfer
CHWs	Community Health Workers
CMRA	Child Marriage Restraint Act
DALYs	Disability-Adjusted Life Years
DHQ	District Head Quarters
GDP	Gross domestic product
GII	Gender Inequality Index
GNI	Gross National Income per capita
HCI	Human Capital Index
ICPD	International Conference on Population and Development
LHWs	Lady Health Workers
LMICs	Lower-Middle-Income Country
MOH	Minister Of Health
NGOs	Non-Government Organizations
PDHS	Pakistan Demographic and Health Survey
PNC	Postnatal Care
RHCs	Rural Health Centers
SRH	Sexual and Reproductive Health
SRHR	Sexual and Reproductive Health and Rights
THHs	Tertiary Healthcare Hospitals
THQ	Tehsil Head Quarters
TFR	Total Fertility Rate
UN	United Nations
UNCEF	United Nations Children's Fund
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNFPA	United Nations Population Fund
USD	United States Dollar
WHO	World Health Organization

Key terms

Adolescence	WHO defines adolescence age between 10 and 19 years old which considers a crucial period of physical and emotional growth and development, that sets the foundation for the rest of a person's life. The experiences and decisions made during this time can have long-lasting impacts on an individual's health, well-being, and future prospects(1)
Adolescent pregnancy	Pregnancy in the age group of 10–19 years and it is also called teenage pregnancy(2)
Child Marriage	"Child marriage refers to any formal marriage or informal union between a child under the age of 18 and an adult or another child"(3).
Total fertility rate	"Total fertility rate represents the number of children that would be born to a woman if she were to live to the end of her childbearing years and bear children in accordance with age-specific fertility rates of the specified year"(4).
Age-specific fertility rate	"The age-specific fertility rate measures the annual number of births to women of a specified age or age group per 1,000 women in that age group"(5).
Human capital	"the knowledge, skills, and health that people accumulate throughout their lives, enabling them to realize their potential as productive members of society"(6).
Unmet need for modern contraceptive	"Women with unmet need are those who are fecund and sexually active but are not using any method of contraception, and report not wanting any more children or wanting to delay the next child. The concept of unmet need points to the gap between women's reproductive intentions and their contraceptive behaviour"(7).
Contraceptive prevalence	"The percentage of women aged 15-49 years, married or in-union, who are currently using, or whose sexual partner is using, at least one method of contraception, regardless of the method used"(8).
South Asia	(Afghanistan, Bangladesh, Bhutan, Maldives, Nepal, India, Pakistan, and Sri Lanka)
Antenatal care	"The care provided by skilled health-care professionals to pregnant women and adolescent girls in order to ensure the best health conditions for both mother and baby during pregnancy"(9).
Postnatal care	"World health organization stated that postnatal care is defined as a care given to the mother and her newborn baby immediately after the birth of the placenta and for the first six weeks of life"(10)

Acknowledgments

To my adorable daughter Julia …

To my beloved and the greatest supporter my husband Wadah…

To my family in Yemen for their distance support and prayers.

Many thanks and gratitude to the academic and thesis advisors and all KIT friends and colleagues.

Introduction

Becoming a mother to my five-month-old daughter, Julia, has been an incredible journey. Balancing the demands of pregnancy, childbirth, and now motherhood while pursuing my master's degree has given me insight into the challenges and exhaustion that accompany these responsibilities. As a woman in my thirties, I have found it hard to manage everything, which has led me think about young girls in similar situations,

The realization of how demanding this journey can be, especially for young girls, has inspired me to focus my thesis on adolescent pregnancy. I want to understand the drivers that lead to adolescent pregnancy, and to know more about why this happens and finally to explore how it could be prevented.

While adolescent pregnancy is a notable issue in Yemen-my home country, the lack of literature and data about this topic makes it difficult to carry out a comprehensive search. Thus, I have chosen Pakistan which has a similar context to Yemen in terms of culture and socioeconomic status. I believe the outputs of this thesis can be applied in the Yemeni context to address adolescent pregnancy.

This thesis discusses the factors contributing to adolescent pregnancy in Pakistan from a socio-ecological perspective. It also discusses effective interventions in the south Asia region targeting adolescent sexual and reproductive health. The thesis's goal is to enhance existing knowledge and broaden the comprehension of adolescent pregnancy in Pakistan, and to address the gaps in adolescent sexual and reproductive health in the country.

Chapter one serves as a background, providing general information about Pakistan. Chapter two focuses on the problem statement (adolescent pregnancy in Pakistan), justification, and objectives. Chapter three illustrates research methodology including the conceptual framework employed. Chapter four illustrates the findings of the determinants of adolescent pregnancy using the modified framework. Chapter five reviews effective interventions from various contexts in South Asia addressing key determinants influencing adolescent pregnancy. Chapter six presents the discussion focusing on the determinants of adolescent pregnancy. Finally, chapter seven elucidates the conclusion and the recommendations.

Chapter 1: Country Background

This section introduces Pakistan as the area of focus in this thesis. It presents demographic, educational, socioeconomic, cultural, and political details important for understanding the lives of adolescents. Also, it displays a general description of Pakistan's health system and some health statistics related to adolescent pregnancy.

1.1 General Information

Pakistan is a country situated in the northwest part of the South Asian subcontinent. As shown in below figure 1, it shares borders with four neighboring countries. China lies to the northeast, India to the east, and Afghanistan and Iran to the west. Along its southern side, Pakistan has a coastline that stretches approximately 1046 kilometers, bordering the Arabian Sea and the Gulf of Oman. The country is divided into four main provinces, namely Baluchistan, Punjab, Sindh, and Khyber Pakhtunkhwa. The capital city, Islamabad, is located in the northeastern part of the country. In terms of global rankings, Pakistan is the 33rd largest country in the world in terms of land area, covering around 770,880 square kilometers. Its geographical features vary, with mountainous regions in the north, flat plains in the east, and the Baluchistan plateau in the west (11,12).

Figure 1Pakistan map Source World Atlas (13)

1.2 Demography

According to the United Nations data, Pakistan had a population of 240,485,658 in the mid of 2023, which accounted for approximately 2.99 % of the global population. Pakistan is positioned as the fifth most populated country worldwide. About one-third of the population (34.7 %) is urban and the rest is rural (14). Based on the world bank data, the population growth is 1.9

in 2022 and 49.6% of the population is female. In 2021, life expectancy at birth is 66 years (69 years for females and 64 years for males) (15). According to Pakistan Demographic and Health Survey (PDHS) 2017- 2018, Adolescents from 10-19 years account for almost one-quarter (23%) of the total population(16). The below figure 2 shows Pakistan population pyramid.

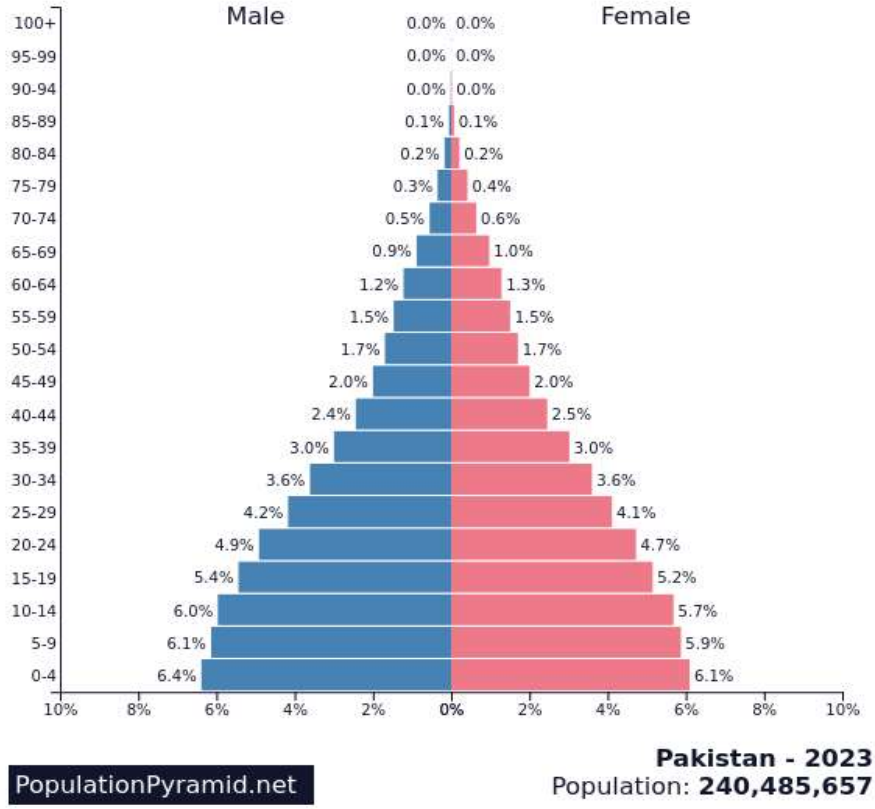

Figure 2 Pakistan population pyramid, 2023 Source Population Pyramids of the World (17)

1.3 Education

Based on the United Nations Educational, Scientific, and Cultural Organization (UNESCO) findings, Pakistan has an illiteracy rate of 45%, ranking 160th among all countries worldwide (18). Furthermore, according to PDHS 2017–18, 50% of women and 34% of men lack formal education. Only 9% of women have received secondary education, while 10% have achieved a higher level of education. For men, 14% have completed secondary education, and 13% have attained a higher level of education. A higher percentage of rural women (59%) and men (41%) lack formal education compared to urban women (33%) and men (23%). When comparing different wealth quintiles, a significantly smaller proportion of women (0.2%) and men (2%) from the lowest wealth quintile have achieved a higher level of education. In contrast, a much higher percentage of women (31%) and men (35%) from the highest wealth quintile have attained such education(16).

1.4 Socioeconomic Condition

In the World Bank classification, Pakistan is categorized as a lower-middle-income country (LMIC), with a gross national income (GNI) per capita of 1,580 USD in 2022 (19,20). According to the World Bank's estimation, the poverty rate in Pakistan for the years 2021-22, using the lower middle-income threshold, stands at 39.3 per cent. In Pakistan, poverty is predominantly concentrated in rural areas, where a significant proportion of the population consists of unskilled, informal, and low-income individuals (21,22).

1.5 Cultural Aspects

Pakistan is a culturally diverse nation with various ethnicities, customs, beliefs, traditions, and languages (23) . The major ethnic groups in the country include Punjabi, constituting the largest portion of the population at 44.7%, followed by Pathan at 15.4%, Sindhi at 14.1%, Saraiki at 8.4%, Muhajirs at 7.6%, and Balochi at 3.6% (24). The people in Pakistan communicate using around seven distinct languages, depending on their ethnic origins. Urdu is the official and most widely spoken language, and English serves as the second official language. Islam is the primary religion in Pakistan, with nearly the entire population identifying as Muslims, except for about 3% who follow other religions such as Sikhism, Buddhism, Christianity, and Hinduism (25). Pakistan is characterized as a traditional society with a patriarchal structure, where gender disparities are common. According to the UNDP's Human Development Report 2020, Pakistan is ranked 135th out of 188 countries, with a Gender Inequality Index (GII) of 0.538, indicating significant gender inequality issues (26).

1.6 Political Environment

Pakistan is a federal parliamentary republic with a semi-secular Islamic framework. This country has grappled with prolonged political instability since its inception in 1947. The country's multicultural diversity has contributed to persistent regional tensions, leading to challenges in forming a constitution that addresses this diversity (27,28). Several factors contribute to Pakistan's political instability, including ongoing conflicts among provinces, complex relations with India, and fluctuations between military rule and elected democratic governance (27,29). Additionally, Pakistan has a history of battling terrorism. With the Taliban's rise to power in Afghanistan, there has been an increase in terrorist attacks within the country, further exacerbating instability (29). These political issues have had a detrimental impact on socioeconomic development, hindering progress (30).

1.7 Health System

In Pakistan, the healthcare delivery system consists of two primary components: the public and private health sectors. The responsibility for health services lies with both provincial and federal governments, who collaborate to manage the public health system. The public health sector is divided into three levels, namely primary, secondary, and tertiary, and comprises a total of 14,016 health facilities (13,051 basic facilities and 965 secondary and tertiary hospitals) (31,32).

Primary healthcare serves as the initial point of contact between patients and healthcare providers in Pakistan. This level of care is delivered through 13,051 health facilities known as Basic Health Units (BHUs) and Rural Health Centers (RHCs). BHUs cover a catchment population of 25,000 people, while RHCs cater to a catchment population of 100,000. Both BHUs and RHCs offer a

comprehensive range of services, including preventive, curative, and referral services. Additionally, the country's preventive and promotive health services are carried out by community health workers (CHWs), such as 93,000 lady health workers (LHWs) and 6,000 community midwives. These CHWs operate in collaboration with and are regulated by the primary healthcare system (31,32). Family planning is provided in both public and private facilities and to the community by LHWs (33).

The secondary healthcare level in Pakistan offers intermediate, technical, comprehensive therapeutic, and diagnostic services. It includes Tehsil Head Quarters (THQ) and District Head Quarters (DHQ) facilities. THQs serve as the first referral point for cases from BHUs, RHCs, and LHWs, with each THQ covering a population of 500,000 to 1 million at a sub-district level and having 40-60 beds. DHQs serve people at the district level, covering approximately 1-3 million people, and receive referrals from BHUs, RHUs, and THQs. Tertiary healthcare, the third level of healthcare, comprises around 22 tertiary healthcare hospitals (THHs), mostly teaching hospitals that provide specialized services. These THHs are located in major cities and offer referral care to patients from primary and secondary health providers (34)

Just 30% of the population uses the public healthcare system, while approximately 71% opt for the private sector despite the country's poverty rate. Pakistan has around 73,000 private health facilities, and although they are more expensive than the public sector, they are preferred by a significant majority of people (33).

The health system in Pakistan faces consistent underfunding and numerous challenges due to a lack of sufficient financial support. In 2020, the total health expenditure per capita was $38.18, accounting for 2.5% of the country's GDP (35) . The financing sources for healthcare in Pakistan include 37% from governmental expenditure, 55% from out-of-pocket payments, and 7% from external resources (36). Moreover, the health insurance system covers only five per cent of the population (37). The Demographic Health Survey (DHS) revealed that females are less likely to have any form of health insurance compared to males in a ratio of 1 to 4(16).

1.8 Health Statistics Related to Adolescent Pregnancy

1.8.1 Adolescent pregnancy rate

According to the last PSDH 2017-18, the adolescent pregnancy rate is 8%, which means 8 per cent of women between the ages of 15 and 19 in Pakistan have started childbirth. Six per cent of them have experienced a live birth, and the rest 2% are expecting their first child at the study time. 3% of these pregnancies are among women aged 15 to 17(16). The rate of adolescent pregnancy declines as the educational level of girls increases. It is reduced by over three times among girls with secondary education. Adolescent pregnancy occurs more among girls in rural areas than in urban areas. The adolescent pregnancy rate is doubled in the lowest wealth quantiles compared to the highest quantiles(16). See Annex 1.

1.8.2 Fertility rate

In Pakistan, the total fertility rate (TFR) is 3.6 births per woman. Mothers in rural regions bear one more child (3.9 births per woman) compared to mothers in urban areas (2.9 births per woman) (16). The age-specific fertility rate (ASFR) for women aged 15-19 is 46 births per 1,000 women,

and this number rises significantly to 171 births for women aged 20-24, reaching its highest point at 215 births for women aged 25-29. In all age categories, ASFR shows higher values in rural areas and lowest wealth quintiles (16).

1.8.3 Contraceptive rate

Based on PDHS 2017-18, the contraceptive prevalence rate is 34% among married women aged (15-49), 25% for modern contraceptives and the rest for traditional ways. The contraceptive prevalence rate among young women (15-19) whoever married is only 7%(16).

Chapter 2: Problem statement, Justification, and Objectives

This chapter presents the topic of the study and explains the problem, the knowledge gap, and the justification behind studying adolescent pregnancy in Pakistan. Also, it outlines the study's objectives.

2.1 Problem statement and Justification

Adolescence-age between 10 and 19 years- is a crucial period of physical and emotional growth, shaping an individual's lifelong health, well-being, and future (1). Adolescents worldwide encounter significant obstacles to their sexual and reproductive health and rights, which leads to adolescent pregnancy (1).

Adolescent pregnancy is a critical public health concern which affects both developed and developing countries and raises human rights issues such as deprivation of education and health rights. Adolescent girls are often not physically or psychologically ready for pregnancy and childbirth, making them more vulnerable to complications and adverse health consequences (38). Adolescent mothers (aged 10 to 19) are at greater risk of developing eclampsia, endometritis after giving birth, obstetric fistula, and systemic infections compared to women aged 20 to 24. Their babies are also at a higher risk of being born with low birth weight, born prematurely, and having severe health problems at birth (39,40). Complications during pregnancy and childbirth are leading causes of disability-adjusted life years (DALYs) and mortality among girls aged 15-19 (39–41).

From the human rights perspective, adolescent pregnancies often have severe consequences for the girls involved. They can disrupt their education and prospects, increase their risk of poverty and exclusion, and pose significant health risks (39).

On a global scale, in 2021, approximately 14 % of young women and adolescent girls become mothers before age 18 (39). Ninety-five per cent of adolescent birth worldwide occurs in the developing world (42). In low- and middle-income countries (LMIC), around 21 million pregnancies happen annually among adolescents aged 15-19, leading to about 12 million births. Among these pregnancies, approximately half are unintended pregnancies (39).

South Asia region is one of the highest rates of adolescent pregnancy globally (43). Adolescent pregnancy in Pakistan primarily ensues within the context of marriage (16,44). As per Pakistan Demographic and Health Survey (PDHS) 2017-2018, 29% of women are married by the age of

18, and 8% of girls have their first child between the ages of 15-19 years, which is still unchangeable since 2012 (16). Despite the decline in the number of girls under 15 getting married, a high number of adolescent girls (one in two) still get married between the ages of 17 and 18. This high number leads to high rates of adolescent pregnancies, and 7.7% of all women in Pakistan become pregnant before age 19 (45). In Pakistan, girls have fewer opportunities and lower development outcomes and face burdens from gender norms affecting their education and health. Eventually, they become child brides and experience adolescent pregnancy (46).

In Pakistan's context, some literature addresses the adolescent pregnancy scope, and others introduce some associated factors such as child marriage. However, there is a lack of comprehensive studies on factors influencing adolescent pregnancy in Pakistan. For example, a systematic review was conducted in 2022 to address the factors associated with adolescent pregnancy in South Asia. It included 15 studies conducted between 2000 and 2022; only one was performed in Pakistan (43). Understanding the factors contributing to adolescent pregnancy is crucial to address this issue in Pakistan effectively. In my study, I propose to search for available literature about determinants of adolescent pregnancy in Pakistan and neighbouring countries with similar contexts. The thesis aims to identify potential factors that might also be present in Pakistan and explore evidence-informed strategies and interventions for prevention and response.

2.2 General Objective

To explore determinants of adolescent pregnancy in Pakistan and identify effective interventions in order to formulate recommendations for policy makers and programme implementers working on adolescent sexual and reproductive health and rights (SRHR).

2.2.1 Specific Objectives

- To explore determinants of adolescent pregnancy in Pakistan
- To identify effective interventions addressing adolescent pregnancy in the south Asia region.
- To formulate evidence-informed recommendations for policy makers and programme implementers working on adolescent SRHR in Pakistan including but not limited to MOH.

Chapter 3: Methodology

This chapter outlines search methodology including the framework used to achieve the objectives.

3.1 Method

The thesis consists of a qualitative study based on a literature review.

3.2 Search approach

This thesis is a literature review of determinants of adolescent pregnancy in Pakistan and South Asia. I identified relevant peer review articles using electronic databases PubMed, Google Scholar, Vrije Universiteit online library, Lancet, and Cochrane. Searching for other grey literature and reports was done through websites of the World Bank, United Nations Population Fund (UNFPA), World Health Organization (WHO), United Nations Children's Fund (UNICEF), other United Nations agencies (UN), Non-Government Organizations (NGOs) such Guttmacher Institute, and Pakistani governmental websites such as Ministry of National Health Services and Coordination and Pakistan Bureau of statistics. Furthermore, I have used snowballing to search for further articles and more details and have included Articles published in English in the last 20 years. On the other hand, I have excluded Articles in different languages and those without full-text access. Because the author only understands articles in English without full-text access, which will not provide a complete picture of the subject. Keywords, including adolescent, teenage, pregnancy, childbearing, Pakistan, prevalence, factors, determinant, South Asia, and the combinations of the Boolean operators such as "AND" and "OR" were also used in Table 1.

For the analysis, I read the article's abstracts, then made content analysis for the most relevant articles using the UNFPA's modified socio-ecological framework conceptual framework as guidance.

Table 1 Search table

Objective	**Primary Keywords**	**Secondary Keywords**	**Other Keywords**
	These keywords used alone during search	Secondary keywords combine primary keywords using Boolean operators "AND" and/or "OR"	Other keywords link with primary and/or secondary keywords using Boolean operators "AND" and/or "OR"

General objective	Adolescent pregnancy Teenage pregnancy Early childbearing	Pakistan, Prevalence, Factors, Determinant, Intervention	
First Specific objective	Adolescent pregnancy Teenage pregnancy Early childbearing	Pakistan, Prevalence, Factors, Determinant, south Asia	socioeconomic, belief, culture, religion, education, contraceptive, peer, friends, SRH, SRHR, reproductive health, health services, young women, gender, policy, law, child marriage, puberty, poverty, sexual debut, sexual violence, socialization, access, family, community, flood, disaster,
Second specific objective	Adolescent pregnancy Teenage pregnancy Early childbearing	Pakistan, Prevalence, Factors, Determinant, Intervention, south Asia,	prevention, intervention, best practice, program, policy, project,
Third specific objective	By using the outcome of first and second objective.		

3.3 Conceptual Framework

In 1994, 179 governments agreed at the International Conference on Population and Development (ICPD) to prioritize adolescent reproductive health education, to reduce adolescent pregnancies. However, efforts before and after 1994 often focused narrowly on girls' behaviour as the problem and solution, overlooking broader economic, social, and legal factors (47).

Blum and his team introduced a comprehensive conceptual framework to address early adolescent health in response to the World Health Organization's call for such a model. This framework focuses on recognizing the rights of adolescents to lead healthy lives and considers multiple levels of influence and developmental trajectories over time (48). It delves into the various environments surrounding adolescents, including the community, family, school, and individual factors. It explores how these elements interact to protect them from risks or expose them to vulnerabilities. Additionally, it considers macro-level forces like a country's economy, political events, natural disasters, historical events, and societal norms, which can indirectly influence an adolescent's well-being and potentially lead to discrimination (48).

The framework's core objectives are to shape positive learning outcomes, provide emotional and physical security, empower competence and resilience, and enhance early adolescent health and development decision-making abilities. It offers a holistic approach to guide interventions and policies that support their overall well-being during this critical stage of life (48).

In 2013, the UNFPA released a report focusing on the global status of adolescent pregnancy. They adopted Blum's ecological model as the foundation for identifying and examining factors related to barriers and risks specific to adolescent pregnancy (47).

The UNFPA framework acknowledges the wide range of influences contributing to the risk of unintended or unwanted adolescent pregnancies. The original UNFPA model is in the Annex 2. Due to the background mentioned above on UNFPA socio-ecological frame and its comprehensive, multi-level, and specificity characteristics, I have chosen it as a guide for this thesis. However, I have made some modifications to the framework in the Sub-level determinants, which I have rephrased in a neutral and non-judgmental way to include perspectives that the determinants traditionally considered as risks or barriers in the context-specific of Pakistan. Additionally, similar themes in the sub-level where I consolidated determinants to avoid repetition. Figure 3 illustrates the author's UNFPA socio-ecological modified framework.

3.4 Limitations

Limitations of the included articles and reports to those in English may influence the study's comprehensiveness, as it may miss relevant materials in Urdu, the official language of Pakistan, as well as other languages.

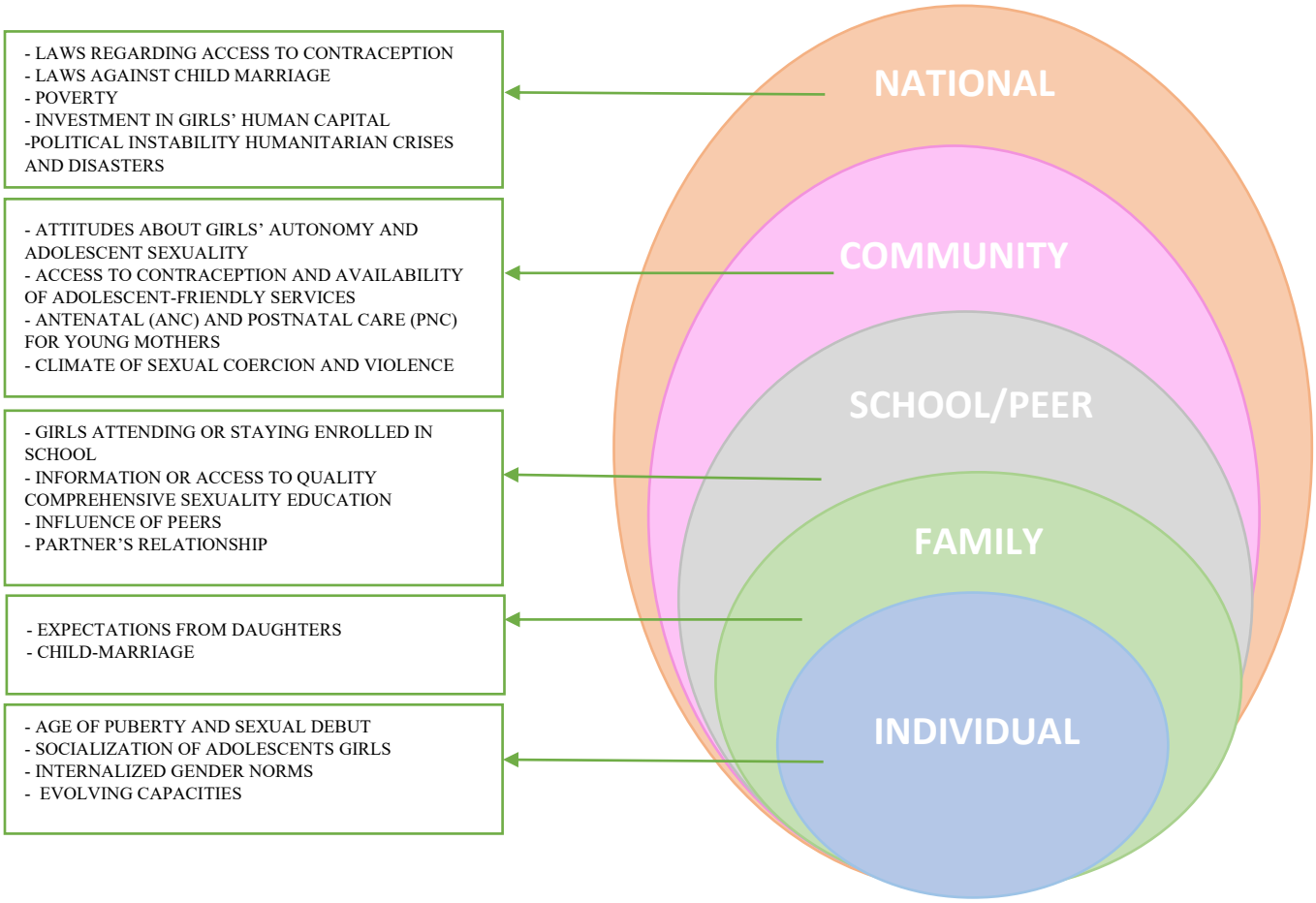

Figure 3 Author's adapted UNFPA socio-ecological framework of determinants of Adolescent pregnancy

Chapter 4: Findings

This chapter displays the main findings on determinants of adolescent pregnancy in Pakistan's context, presenting those based on the adapted UNFPA socio-ecological framework. More specifically, the findings are according to the framework's five layers; national, community, school/peers, family, and individual.

4.1 National-level determinants

The findings on the national-level determinants of adolescent pregnancy in Pakistan are presented along the five sub-layers of the adapted UNFPA socio-ecological framework; laws regarding access to contraception, laws against child marriage, poverty, investment in girls' human capital, and political instability, humanitarian crises, and disaster.

4.1.1 Laws regarding access to contraception

In some countries, laws limit adolescents' access to sexual and reproductive health (SRH) services, including contraception. Access is mostly tied with parental or spousal consent, which prevents adolescents, mainly girls, from seeking SRH services when needed (47).

In Pakistan, adolescent girls encounter obstacles in obtaining contraception because of strict laws and policies restricting access based on age and marital status. Also, they face negative and discriminatory attitudes from health workers and their unwillingness to meet adolescents' SRH needs (44). These barriers of obtaining contraceptives by adolescents are documented in other studies in LMICs(49). A study observes that significant portion of adolescents face adverse health effects including unintended pregnancy due to early and unprotected sexual activity(49).

Pakistan ratified many international agreements, including Sustainable Development Goals Agenda (SDGs) 2030, and is committed to the goals outlined in these agreements. For example, target 3.7, under SDG 3, calls for "universal access to sexual and reproductive healthcare services, including for family planning, information and education, and the integration of reproductive health into national strategies and programmes ". Target 5.6 calls for "universal access to sexual and reproductive health and reproductive rights as agreed in accordance with the Programme of Action of the International Conference on Population and Development and the Beijing Platform for Action and the outcome documents of their review conferences" (50). Also, Pakistan, as a SAARC member, is dedicated to upholding the provisions of the Convention on the Rights of the Child (CRC), particularly in Article 3(3), which focuses on safeguarding the rights and well-being of young individuals (51). At the national level, Pakistani family planning policies at the provincial level target married women in their reproductive years. In 2019, the Sindh Province parliament approved the Sindh Reproductive Healthcare Rights Act. Although the Act doesn't address adolescent rights directly, it emphasizes that everyone has the right to make decisions about reproductive matters and expects others to respect those decisions (52).

4.1.2 Law against child marriage

According to UNFPA, enforcing national laws prohibiting child marriage could effectively mitigate girls' vulnerability to the risk of pregnancy (47).

In Pakistan, laws against child marriage and enforcement of penalties are inadequate due to support from local tribal councils for cultural practices that uphold family honour (44). Thus, child

marriages persist in Pakistan despite legal restrictions, with 29% of women marrying before the age of 18, based on PDHS 2017-18 (16). According to the Center for Reproductive Rights, child marriage law enforcement is hindered in Pakistan because there is inadequate support for girls who want to avoid child marriage. Also, there are few places to seek protection and insufficient legal aid and counselling (53).

Pakistan's Child Marriage Restraint Act (CMRA) of 1929 establishes marriage ages at 16 for women and 18 for men. A significant development came in April 2014 when the Sindh Provincial Assembly passed the Child Marriage Restraint Bill, Pakistan's first law against child marriage. This bill defines a child as under 18, regardless of gender. Amendments to the Penal Code in February 2017 also increased penalties for involvement in child marriage. However, the National Assembly rejected a new Child Marriage Restraint Act aiming to raise the marriage age to 18 nationwide in May 2017 for the second time. The Council of Islamic Ideology argued against such laws, considering them incompatible with Islam (44).

Furthermore, some studies conducted in Muslim-majority countries of South Asia, including Pakistan, have demonstrated an increased likelihood of child marriage, which, in turn, raises the chances of adolescent pregnancy (54–56). One potential explanation for this pattern is that Islam doesn't clearly state any age restrictions on marriage (54–56). Furthermore, CMRA doesn't completely forbid child marriages since it allows girls above 16 to get married (53).

Studies show that child marriage is more common in rural areas, where impoverished parents may sell their daughters into marriage to settle debts or disputes. Child marriage in Pakistan is driven by financial, social, cultural, and religious factors (51). There is a social anticipation for girls to start having children right after they get married to prove their fertility which contributes to the occurrence of adolescent pregnancies (44,57).

4.1.3 Poverty

Poverty poses a critical problem in Pakistan and exerts a substantial cyclical and cumulative influence on girls' educational attainment and adolescent pregnancy (44). The significant cycle between poverty, education and adolescent pregnancy happens in other LMICs, leading to the persistence of adolescent pregnancy as social and public health concern (58).

In Pakistan, an analysis of PDHS datasets from 1990 to 2018 displays that adolescent pregnancy has an inverse relationship with the women's wealth quantile (45). Females from low wealth quantile in Pakistan experience a higher incidence of child marriage, resulting in many adolescent mothers (44). A systematic review conducted on the South Asia region published in 2023 revealed similar findings, indicating that adolescents from economically disadvantaged households face a greater pregnancy risk than their peers from more affluent families(54). Poverty restricts autonomy, prospects, and resource access, leading to helplessness, exclusion, and susceptibility. These vulnerabilities can contribute to a higher likelihood of limited education and adolescent pregnancy (58).

4.1.4 Investment in girls' human capital

One of the main factors at the national level contributing to adolescent pregnancy is a general lack of investment in developing girls' human capital, particularly in areas like education and health, including sexual and reproductive health (47).

No study was found on the girls' human capital and adolescent pregnancy in Pakistan. However, Pakistan's human capital is low and has slightly improved over the past three decades (6,59). A recent World Bank study found that Pakistan's Human Capital Index (HCI) is at 0.41, indicating low levels both absolutely and in comparison, (in absolute and relative terms) (59). That means a child born in Pakistan today will achieve 41% of their potential productivity with complete education and health. This number places Pakistan's human capital below the South Asia average of 0.48. The country also faces persistent disparities in human capital outcomes across different groups, including wealth, gender, location, and provinces. Pakistan invests about 2.5 per cent of its GDP in education and 0.9 per cent in health, thus notably less than average for comparable economies (6,59).

4.1.5 Political instability, humanitarian crises, and disasters

No study was found on the effect of political instability, crisis, or natural disaster on Pakistan adolescent pregnancy. Nonetheless, as highly documented, girls residing in regions affected by conflicts face an elevated likelihood of being subjected to child and coerced marriages which go hand in hand with adolescent pregnancy (60). In the conflict context, girls frequently face incidents of abduction and sexual assault, as happened in Pakistan and Afghanistan by Taliban (61). Also, as mentioned in chapter one, section 1.6, Pakistan has suffered political instability for ages. Furthermore, Pakistan was affected by continuous monsoon rains and worse in June and August 2022, which displaced around 7.9 million people and destroyed numerous homes and livelihoods (62). Such circumstances worsen economic and social instability anywhere (63). Also, girls face challenges in accessing education and increased vulnerability to child marriage and pregnancy due to disrupted livelihoods and displacement, which also hinder access to health services, exposing girls to reproductive risks (63).

4.2 Community-level determinants

The findings on community-level determinants of adolescent pregnancy in Pakistan are displayed along the four sub-layers of the adapted UNFPA socio-ecological framework; attitudes about girls' autonomy and adolescent sexuality, access to contraception and availability of adolescent-friendly services, antenatal and postnatal care for young mothers, and climate of sexual coercion and violence.

4.2.1 Attitudes about girl's autonomy and adolescent sexuality

Every community possesses its unique set of norms, convictions, and attitudes that shape the degree of agency a girl can experience, her ability to freely exercise her rights, her vulnerability to forced marriage, and the likelihood of adolescent pregnancy (47). Generally, accessing contraception can be challenging due to cultural norms and beliefs that adolescents should not be sexually active; therefore, they do not need contraception. This mismatch between adult views and adolescent realities contributes to adolescent pregnancies (47). Furthermore, in many cultures, premarital sexual activity is not accepted, resulting in further access constrain to contraceptive information and services to unmarried adolescents(47,49).

In Pakistan, adolescent girls don't have the autonomy to decide on the specific type or timing of contraceptive use (44). A study conducted in Karachi, the largest city in Pakistan, including 150 adolescent girls aged between 10 -19 years, showed that most participants believed they should not report sexual and reproductive problems to anyone. This reluctance may be due to shyness, lack of knowledge, and perceived barriers to healthcare access among female adolescents (64). Additionally, some studies in South Asia observed that adolescent girls living in households headed by males were at a higher risk of experiencing adolescent pregnancy when compared to those in female-headed families. The patriarchal norms in South Asia restrict adolescents' autonomy in household decision-making, including matters concerning childbirth and contraception (54,65). Studies indicated that the lack of independence might contribute to an increased likelihood of adolescent pregnancy (54,65).

4.2.2 Access to contraception and availability of adolescent-friendly services

According to a recent pooled analysis of Demographic and Health Surveys in South Asia countries, contraceptives use or intention to use has a preventive effect on adolescent pregnancy (54). This study concludes that adolescent girls presently using or planning to use contraceptives are conscious of the negative consequences associated with early pregnancy and recognize the significance of family planning methods in averting it (54). Despite international agreement on eliminating obstacles to family planning, adolescents' unmet need for contraception information and services remains a significant global concern (47).

In Pakistan, over 75% of adolescent women who desire to prevent pregnancy have an unmet need for modern contraceptives, according to Adding It Up project (66). Notwithstanding the existence of a nationwide family planning program and policy in Pakistan dating back to the 1950s, findings from the PDHS 2017-18 shows a contraceptive prevalence rate of 34% among married women aged (15-49), 25% for the modern contraceptive and rest for traditional ways. The contraceptive prevalence rate among young women who ever married is 7% (15-19) (16). Adolescents in Pakistan face difficulties in accessing and affording contraceptives due to limited knowledge, transportation challenges, and financial constraints (44). Many adolescents in Pakistan lack knowledge about sexual and reproductive health matters and rights due to societal and religious taboos that discourage open discussions. Even parents feel uneasy about guiding their children in these areas (67). Furthermore, a study on the PDHS datasets from 1990 to 2018 shows that adolescent pregnancy was high among women not exposed to family planning information through any media (45).

In Pakistan, data about adolescent-friendly services and access to contraception by unmarried adolescents are unavailable. Yet, a study shows that rising in the utilization of reproductive health services in Asia is impacted by the availability of adolescent-friendly services (68). Likewise, unmarried adolescent girls and young women who engage in sexual activity encounter more challenges accessing contraceptives than married women. That is primarily due to the stigma associated with being sexually active before marriage (47).

Moreover, females who experience child marriage tend to have less influence in decision-making within their marriages, often yielding control to both husbands and in-laws. This pattern is

prevalent in Pakistan, where husbands frequently surpass their wives in age, consequently restricting their participation in decisions affecting their personal and family welfare, including contraception use (69).

4.2.3 Antenatal (ANC) and postnatal care (PNC) for young mothers

Both antenatal and postnatal care are crucial not only for ensuring the well-being of both the young woman and her baby but also serve as valuable occasions to offer contraception information and options that can assist an adolescent in avoiding or postponing a subsequent pregnancy (47). No study was found in the context of Pakistan on adolescent pregnancy and ANC and PNC of young mothers. Also, the data about utilization of the antenatal and postnatal care services is not disaggregated by age groups in PSDH 2017-18.

4.2.4 Climate of sexual coercion and violence

Child sexual abuse increases the probability of unintended pregnancies (40). WHO Report 2020 estimates that about 120 million girls under 20 have experienced forced sexual contact worldwide (70). This abuse comes from gender inequality and affects more girls than boys. By 2020, at least 1 in 8 children worldwide had been sexually abused before turning 18, and 1 in 20 girls aged 15-19 had been forced into sex at some point in their lives (40). Generally, coerced sexual activity and violence from intimate partners heighten the susceptibility of girls to becoming pregnant (47). According to WHO, around a quarter of adolescents aged 15-19 have experienced physical or sexual violence from a partner globally (71).

In Pakistan, no study was found on sexual violence and adolescent pregnancy. Notwithstanding, females between the ages of 15 and 19 in Pakistan are at a higher risk for various types of violence, with 33% of women within this age range encountering physical or sexual violence (16). Furthermore, the majority (78%) of women who have been victims of sexual violence since the age of 15 point to their current husbands as the perpetrators and a smaller proportion (18%) attribute such violence to former husbands. A minority (2%) attribute it to other relatives or police/soldiers (16).

4.3. School/peers-level determinants

The findings on the school/peer-level determinants of adolescent pregnancy are illustrated along the four sub-layers layer of the adapted UNFPA socio-ecological framework; girls attending or staying enrolled in school, information and access to quality comprehensive sexuality education, the influence of peers, and Partners' gender attitudes and risk-taking behaviours.

4.3.1. Girls attending or staying enrolled in school

Generally, as well documented, adolescent girls who attain a higher level of education or stay in school for a more extended period typically experience lower rates of adolescent pregnancy compared to girls with limited or no education or those not enrolled in school(58,72).

In Pakistan, some studies show a higher risk of adolescent pregnancy among uneducated adolescents than among those who had received an education (44,45). This result is aligned with the findings of other studies conducted on LMICs, including India, Bangladesh, and Nepal, which indicate the association between low educational level and low wealth index with adolescent pregnancy (54,66–68). A study conducted in Nepal shows that young women with lower levels of education lack awareness about the adverse effects of early childbearing and access to contraceptive services and information. Furthermore, they are financially reliant on their husbands, have less empowerment within their families and society, and have little to no say in decision-making, all limiting their ability to delay childbirth to later ages (76). Globally, girls who remain in school for extended periods are more likely to utilize contraception to prevent pregnancy and are also less prone to marrying at a young age (47).

4.3.2. Information or access to quality comprehensive sexuality education

Comprehensive sexual education is crucial for mitigating risks and enhancing the sexual and reproductive health (SRH) outcomes of adolescents. Nevertheless, numerous young individuals in developing countries lack sufficient awareness and face challenges accessing comprehensive SRH information (77,78). The limited access to sexual and reproductive health services and rights (SRHR) information and services contribute to child marriage and adolescent pregnancy in Pakistan (44). A qualitative study among adolescent girls in Pakistan highlighted a total absence of understanding of sexual and reproductive health (SRH) issues among adolescent girls. The lack of SRH education, attributed to socio-cultural limitations on discussing sexuality, has led to numerous misconceptions (79). This study discovered that adolescent females in Pakistan primarily rely on friends, media, and the internet for sexual and reproductive health (SRH) information, despite the prevalent extended family system. The societal stigma and norms around sexual topics drive the preference for friends over parents. intergenerational communication gaps between parents and children are due to restricted information, taboos, and negative attitudes. The absence of formal sexuality education in Pakistan's schooling system highlights the need for better sex education for adolescents (79). Another study in Pakistan highlights that adolescents relying less on their parents for information about sexuality indicates that the available sources of information are often unreliable, unclear, and exploitative. Matters concerning adolescence, including misunderstandings and concerns related to sexuality, high-risk pregnancies, sexually transmitted infections (STIs), and inadequate sexual knowledge, are being overlooked due to apprehensions that providing sexual information might encourage premarital sexual behaviour among adolescents. As a result, adolescents lack suitable sources of information, which hinders their ability to safeguard their sexual health (64). Moreover, studies emphasise the importance of knowing puberty and sexual health before reaching puberty (64,80)

4.3.3. Influence of peers

WHO Guidelines on Preventing Early Pregnancy in developing countries emphasize that peers can shape adolescents' perspectives on pregnancy, their stance on preventing it, and their decisions regarding staying in school or leaving before completion. Peer influence can discourage premature

engagement in sexual activity and marriage or strengthen the inclination toward early and unprotected sexual behaviour (81).
In Pakistan, there is no study on peer influence and adolescent pregnancy. Yet, adolescents consider their peers, family, and media primary information sources regarding puberty and sexuality (79,82). A qualitative study among urban adolescent girls in Lahore, Pakistan, shows that most adolescent girls lack proper understanding and possess misconceptions about puberty-related matters. The primary channels of information were peers, the internet, and various forms of media(82). The study state that adolescents were curious about the opposite sex, sexual activities, and relationships, although cultural resistance to offering education about puberty and sexuality in Pakistan (82). The study argued that misconceptions about puberty and sexuality are due to the less reliable source of information, including peers (82).

4.3.4 Partner's relationships

A girl's choices regarding marriage, sex, gender roles, contraception, and childbearing can also be influenced by her sexual partner or spouse, including his age and viewpoint on these issues(47). An adolescent girl with a significantly older partner faces heightened risks of experiencing forced sexual activity, contracting sexually transmitted infections, and becoming pregnant. The substantial age difference in such partnerships amplifies the power imbalance, placing the girl in a more challenging position to discuss and ensure the use of contraception, notably condoms, for safeguarding against pregnancy and sexually transmitted infections (47). Research on adolescent boys' early sexual behaviors reveals that distorted beliefs about sex, including objectifying women and performance-driven views, develop in adolescence and may persist into adulthood, resulting in unsafe sexual practices. Traditional gender norms encourage boys and men to take the lead in sexual relationships, leading to risky behaviors like seeking multiple partners. While women are primarily impacted by harmful gender norms, men also adopt risky behaviors to assert their masculinity. These gender norms perpetuate women's subordination and their rights and resource access, and men may lack sexual and reproductive health information, considering family planning as women's responsibility (47).
The PDHS survey asks men aged 15-49 about their beliefs about contraception. 27% of men believed that contraception is a concern for women, and 16% agreed that women who use contraception tend to become promiscuous (16).

4.4. Family-level determinants

The findings on the family-level determinants of adolescent pregnancy in Pakistan are presented along the two sub-layers of the adapted UNFPA socio-ecological framework; expectation from daughters and child-marriage.

4.4.1. Expectation from daughters

From an early age, boys and girls are treated differently worldwide, and this pattern continues as they grow up. As a result, everyone absorbs societal norms about how they should behave and think. These early influences shape different expectations for themselves, family and others based

on their gender. These differing expectations can lead to behaviours that negatively affect sexual and reproductive health, including teen pregnancy (47).
In Pakistan no study was found on the expectation from daughter and adolescent pregnancy. Yet, studies indicate that gender roles and patriarchal unequal expectations favouring men contribute to child marriage at the family level and girls' satisfaction with parents' marriage choices (83). Studies explain several factors that influence the submissive behaviour of young women in Pakistan: parents making marriage decisions without their input or agreement, parents-in-law assuming controlling roles, and societal pressure for obedient behaviour (84). In Pakistan, it is common for marriages to be quickly followed by pregnancies and childbirths(85).

4.4.2. Child-marriage

Generally, positive attitudes of parents froward child marriage increase the likelihood of child marriage occurrence that leads to adolescent pregnancy (47).
Child marriage remains a deeply entrenched and persistent practice in Pakistan, influenced by various factors such as poverty, limited education, residing in rural regions, and inadequate access to sexual and reproductive health services. These factors, in turn, closely link to the prevalence of adolescent pregnancy in the country (44,69,86). A qualitative study conducted in Lahore, Pakistan, targeting 20 women who had experienced child marriage, shows that most participants indicated their readiness to facilitate marriages for their daughters before reaching 18 when receiving appropriate marriage proposals (83). In rural regions of Pakistan, where child marriage is widespread, customary norms prescribe that women predominantly fulfil the role of homemakers, responsible for tending to children and extended family members. Study participants believed that marrying women before year 18 leads to better integration and smoother relationships with extended family members, including in-laws (83). The study finds that women who were married during their childhood expressed satisfaction and believed that their parents had made the correct decision by marrying them at a young age. Also, they are against prohibiting child marriages because they perceive it as an exclusive family issue (83). The author argues that the traditional gender roles and the patriarchal expectation imposed on women are underlying factors for this satisfaction (83).
A study conducted in Bangladesh shows that traditions and customs encompass the beliefs that wives should be much younger than their husbands, driven by young men's desire for marriage due to their sexual needs. Additionally, the dominance of mothers-in-law and the preference for a daughter-in-law who her husband and his family members can mould from an early age contribute to these customs. Furthermore, parents may believe that marrying their daughters at a younger age protects them from sexual exploitation, and there are also misconceptions that family planning can lead to infertility (87). These results could apply to Pakistan as well. Moreover, in diverse regions of South Asia, cultural practices and the normative influence of the dowry system remain widespread. This system entails the groom's family demanding durable goods, cash, and tangible assets as prerequisites for marriage. Additionally, young married girls may opt for adolescent pregnancies to protect their marriages from potential polygamy (72).

4.5 Individual-level determinants

The findings on the individual-level determinants of adolescent pregnancy in Pakistan are displayed along the four sub-layers of the adapted UNFPA socio-ecological framework; age of puberty and sexual debut, socialization of adolescent girls, internalized gender-inequitable value, and evolving capacities.

4.5.1. Age of puberty and sexual debut

The timing of puberty is associated with the initiation of sexual behaviour and the potential hazards of adolescent pregnancy and infections transmitted through unprotected sexual contact worldwide (88). During puberty, distinct gender roles and societal expectations are further emphasized (47).. Additionally, due to religious beliefs that discourage premarital sexual relationships, marriage is often favoured for young girls once they reach puberty (51).
In Pakistani society, the beginning of puberty for girls results in a sudden shift in social standing, marking the start of a significant transformational journey that culminates in full adulthood (82). Upon reaching puberty, girls in Pakistan are perceived as alluring and captivating to boys (83). Consequently, parents feel relieved of the responsibility to shield their daughters from impropriety, which leads them to marry their daughters at a young age (83). Marrying girls before they turn 18 is seen to shield them from unwanted male attention and the possibility of inappropriate romantic involvement. This practice results in girls leaving school prematurely to preserve family honour. Child marriage occurs because parents often fear potential socially unacceptable situations at schools once their daughters enter puberty (83). On the other hand, studies argue that religious and cultural context, along with the family environment, are crucial elements that contribute significantly to reducing risky sexual behaviours among adolescents (89).

4.5.2. Socialization of adolescents girls

In societies where motherhood is commonly held in high regard, an adolescent might perceive pregnancy as a way to attain social standing or achieve adulthood (47). In Pakistan society, girls are required to obey their parents' family before marriage and their husband's family afterwards. They have limited mobility and social life, and their desires are often disregarded. Their responsibilities span household tasks, childcare, and participation in social and religious activities within the extended family (90). Studies show that adolescent girls in Pakistan rely on several sources, such as the internet, family, and peers, for SRH information. Still, overall, there is a lack of awareness about puberty and sexual matters among them (82). Studies argue that mothers, as sources of information, often lack sufficient knowledge and hesitate to discuss SRH topics openly. Additionally, societal constraints stemming from concerns about premarital activities among youth also contribute to avoiding discussions about sexuality (82). Adolescents, mainly girls, expressed discomfort when discussing sexual matters with their parents or at home (79,82,91).

4.5.3. Internalized gender norms

Globally, adolescent pregnancy is driven by underlying gender inequality within societal structures, discriminatory practices, and harmful social norms. These norms preserve unfavourable

behaviours, beliefs, and attitudes related to gender roles and the sexuality of adolescents, especially girls (63). Inequitable gender norms prevent girls from going to school or staying for long periods, lead to child marriage, make it hard for girls to have safe and consensual sex, and limit their ambitions to specific gender roles (63). In Pakistan, women mostly experience gender inequalities in many aspects (90,92). In the male-dominated structure of Pakistani, women are seen as "sexual objects" and lack autonomy, identity, and rights to decide for themselves or their families.

On the other hand, men are perceived as robust and influential individuals. This is due to male-dominated structure of Pakistani society(92). In Pakistan, education is often prioritized for males, and women are prohibited from contraception if their husbands desire more children (90,93). Right from birth, women are seen as a financial and societal burden in Pakistan. At the same time, their male counterparts are valued as economic assets due to their role as the household's primary earners (86,93).

4.5.4. Evolving capacities

The Convention on the Rights of the Child (CRC) acknowledges the "evolving capacities" of young people, which means young people gain enough understanding to make informed choices, even about important matters like sexual and reproductive health services (47). According to UNFPA, adolescents should have access to information and services to help them comprehend their sexuality and prevent unintended pregnancies (47). A study in Pakistan indicated that by not adequately investing in girls' health and education, families and society continue to maintain the long-standing practice, such as child marriage, of keeping women subordinate (90). Experiencing girlhood in Pakistan is challenging, as evidenced by factors such as child marriage, adloescent pregnancy, maternal mortality, and lower-secondary school completion rates. Each of these elements contributes to a comprehensive measure known as the Girls' Opportunity Index, placing Pakistan's ranking at 88th out of 144 countries (44,94).

Chapter 5: Effective interventions addressing adolescent pregnancy in south Asia

This section highlights some interventions carried out in South Asian countries, including Pakistan. The following three interventions have been evaluated and found to be effective in reducing adolescent pregnancies, either directly or indirectly by decreasing child marriages.

5.1Community Based Intervention

5.1.1 PRACHAR project

PRACHAR means “promote” in Hindi. PRACHAR project, led by Pathfinder International and conducted in Bihar, India from 2001 to 2012, aimed to enhanced local capabilities to implement comprehensive behavior change initiatives aimed at postponing marriage age and advocating for healthy timing and spacing of pregnancies among adolescents and young couples(95).

Bihar, as the third most densely populated state in India, had low contraceptive prevalence rates, early marriage prevalence, and limited family planning programs. The project utilized a life-stage tailored approach based on the socioecological framework. It targeted young individuals (ages 12-24), their families, communities, and health services. PRACHAR employed diverse strategies including age-appropriate sexual and reproductive health training, newlywed ceremonies, home visits by female lay health workers, group meetings, and engagement of husbands, mothers-in-law, and the wider community. The project aimed to delay first births and space subsequent ones by promoting positive attitudes and behaviors related to early marriage, childbearing, birth spacing, and contraceptive use(96,97).

After a decade of experience with the PRACHAR Project in Bihar, India, it is evident that a comprehensive approach involving gender-synchronized interventions, customized for distinct life stages, and addressing various levels of the socioecological model can effectively enhance contraceptive utilization among married young individuals, even within a conservative environment(96).

5.1.2 ‘Improving Sexual and Reproductive Health of Young People by increasing the Age at Marriage and Delaying the First Pregnancy’ Project

This project was carried out from 2009 to 2013 across 18 sites in Bangladesh, India, and Nepal, funded by the European Union. In India, the project focused on eight rural areas in high child-marriage prevalence districts in Uttar Pradesh and Bihar, covering about 100,000 people at each site. The intervention aimed to raise the minimum age of marriage, delay the first pregnancy, and increase schooling to postpone marriages. The project targeted marginalized young individuals aged 10 to 24, emphasizing vulnerable communities, reaching around 2500–3000 young girls and boys at each site. Strategies included empowering young people, community mobilization, and capacity-building with partners like civil society groups, NGOs, and local media. The intervention followed an ecological framework involving young people, parents, community leaders, religious figures, and local governance representatives. It also engaged district administration, relevant government departments, and law enforcement agencies. The project addressed child marriage holistically, using age-appropriate life skill-based education, adapting the national curriculum 'Life Skills & Adolescent Education Programme' to include early marriage and pregnancy topics(98).

Peer educators from intervention villages received specialized training in life skills-based comprehensive education on SRHR. They emphasized completing education, vocational skills, and delaying marriage and pregnancy. Behaviour change tools, developed based on community input, were used by community workers and peer educators. The project established 'Youth Information Centres' (YICs) as safe spaces for peer communication and learning on SRHR issues, setting up 72 YICs with nearly 47,000 young people participating(98).

Structured meetings were held at family and community levels with parents, local governance members, religious leaders, teachers, and health-service providers. Civil society groups, NGOs, and media conducted awareness campaigns against child and early marriages. The project aimed for a system-level change by involving various departments, district administration, law enforcement bodies, and relevant government agencies. It reinforced the 'Prohibition of Child Marriage Act 2006' and promoted in-school life skills-based adolescent education and adolescent reproductive and sexual health programs(98).

Training and refresher sessions were held for teachers, doctors, and health workers in intervention villages to support young individuals in delaying marriage and pregnancy—the project aimed to comprehensively impact early marriages and pregnancies, ensuring well-being and empowerment within targeted communities(98).

A recent study was conducted to evaluate the effectiveness of the project, and the results show intervention strategies like YIC and exposure to mass media demonstrated effectiveness in reducing child marriages and adolescent pregnancies and enhancing school retention. Peer education through YIC emerged as a successful model. The study highlights that this multi-component, community-based intervention holds promise as a potential approach to curbing early marriages and associated consequences in similar socio-economic and cultural contexts across various districts in India (98).

5.2 Community Mobilization Intervention

5.2.1 Shornokishoree Network (SN)

NS is a community mobilization program to delay and prevent early marriage. It is an adolescent development program launched in Bangladesh in 2012 to raise awareness among young people about the harmful implications of child marriage and empower them with knowledge of their sexual and reproductive health rights. This initiative operates throughout all divisions of Bangladesh and functions through secondary school-based clubs known as SK Clubs. These clubs consist of adolescent boys and girls in grades 6 to 10 (aged 11 to 19 years), with each secondary school having one SK Club composed of 30 members. The club is guided by a designated teacher, often a schoolteacher, while two club members act as leaders and liaisons with the network group. Discussions within the group sessions cover various topics related to early marriage and reproductive health, overseen by the guide teacher (99).

The primary focuses of the SK Network include personal and menstrual hygiene, adolescent reproductive and sexual health, nutrition, mental health, lifestyle, empowerment, leadership development, and combating child marriage and early pregnancy. Key strategies involve engaging adolescent boys and girls through SK clubs in secondary schools, conducting peer education within communities, providing accurate and age-appropriate information for behaviour change, addressing barriers at schools and in communities, utilizing mass and digital media, establishing

stakeholder networks, and empowering adolescents through training, capacity building, advocacy, and policy change efforts (99).
A study was conducted to assess the impact of interventions carried out by the Network and to identify shifts in adolescents' knowledge, attitudes, and behaviours concerning the prevention of child marriage using a quasi-experimental design. The study findings indicate that the awareness program has significantly enhanced adolescents' understanding of child marriage, leading to a noticeable positive influence on preventing child marriages (99).

5.3 Cash transfer program to end child marriage

5.3.1 Female Secondary School Stipend (FSSP) in

The FSSP is a conditional cash transfer (CCT) program in that was formulated as a component of a larger educational reform initiative by the Provincial Government of Punjab, Pakistan (100,101). This program was initiated in early 2003 to enhance girls' educational achievements and reduce gender disparities. The primary aim of the FSSP was to encourage middle school girls (grades 6 to 8) to participate in public education. The program offered benefits like a quarterly stipend of about 600 Pakistani rupees, the national currency of Pakistan, (approximately US$10) per female student. Girls were chosen based on their residence in districts with low literacy rates (below 40 per cent) and public-school enrollment in grades 6 to 8. Eligibility required a consistent school attendance rate of at least 80 per cent, monitored and reported by the school(101).
A study conducted by the World Bank to evaluate the long-term impact of the FSSP program in Pakistan shows that the effects endure beyond the immediate period and could contribute to diminishing gender disparities in education. After four years of implementation, the FSSP has demonstrated its effectiveness in enabling girls in stipend-receiving areas to advance through and successfully finish middle school. Moreover, notably among the younger cohorts of girls in these areas, there is a heightened likelihood of enrolling in and completing at least one high school grade. In terms of labour force participation, marriage, and fertility decisions, there is some indication that the program influences girls to reduce their work, postpone marriage, and have fewer children(101).

5.4 Development Initiative Supporting Healthy Adolescents

The Development Initiative Supporting Healthy Adolescents (DISHA) in India is an effective program that combines community-level efforts like mentoring and community discussions with expanded health services, comprehensive sex education, contraception education, and life skills training for individuals. It operates in 176 villages in India, establishing youth groups and resource centers for adolescents to learn about sexual and reproductive health (SRH), access SRH services, and receive training for future careers. The program also trains local health providers to offer youth-friendly care, involves volunteers in modern family planning, employs peer educators, holds counselling sessions, and employs a communication strategy to discuss youth's role in society with local adults. Using a research approach with control groups, the evaluation after two years showed that the marriage age increased from 15.9 to 17.9, and contraceptive use rose by almost 60% among married youth. Attitudes toward child marriage (believing people shouldn't marry before 18) also changed, with males going from 66% pre-program to 94% post-program and females from 60% to 87% (97,102).

Chapter 6: Discussion

This chapter present the discussion of the main findings of the determinants of adolescent pregnancy in Pakistan and effective interventions in south Asia. It highlights the study limitations and strengths.

The presented literature review indicates that adolescent pregnancy in Pakistan is influenced by various interconnected determinants at different levels; national, community, school, family, and individual. The confluence and interplay of these determinants create a vulnerability where girls experience adolescent pregnancies.

Persistent **poverty** and economic challenges in Pakistan often influence girls' educational attainment and contribute to adolescent pregnancy. The cyclical and cumulative relationship between poverty, education, and adolescent pregnancy is evident in Pakistan and other LMICs (44,58). In Pakistan, poverty compels families to resort to **child marriage** for their daughters, primarily driven by financial considerations. This phenomenon is further aggravated by the **inconsistent implementation of the national child marriage law** (CMRA), which also does no entirely prohibit child marriages, as it permits the marriage of girls above the age of 16 (53). The prevailing **societal norms** and deeply ingrained **religious beliefs** contribute to the perpetuation of this practice, as families believe early marriage is a means to protect family honour and secure a promising future for their daughters. This societal pressure and traditional customs drive girls to prove their fertility by childbearing promptly after marriage leading to adolescent pregnancies. Such early pregnancies expose these young girls to many physical and mental health challenges and elevate the risks for adverse outcomes for maternal and neonatal health.

Another important determinant of adolescent pregnancy in Pakistan is **education** where Half of the women have not received any formal education based on PDHS. Studies consistently show that adolescent girls who receive higher education and remain in school experience lower adolescent pregnancy rates, as documented in various LMICs, including Pakistan (55,70). Education plays a crucial role in raising awareness about the consequences of early childbearing and enhancing access to reproductive services, contributing to a reduced likelihood of adolescent pregnancy.

In Pakistan, adolescents' **access to contraception** is hindered by strict laws based on age and marital status and biased attitudes from healthcare providers reluctant to address their sexual and reproductive health needs. Constraining access to contraception among adolescents is a documented issue in Pakistan and other LMICs (44,49). Despite a long-standing national family planning program, PDHS data shows a 34% contraceptive prevalence rate among married women aged 15-49, with only 25% using modern methods; for young married women (15-19), this drops to 7%. Pakistani adolescents face challenges in accessing and affording contraceptives, due to limited knowledge, transportation obstacles, and financial limitations. Societal and religious taboos also contribute to adolescents' inadequate sexual and reproductive health awareness, even affecting parental guidance.

Comprehensive sexual education is vital for improving adolescent sexual and reproductive health (SRH) outcomes. However, in developing countries like Pakistan, adolescents face obstacles accessing adequate SRH information, leading to adolescent pregnancy. Studies highlight a lack of SRH understanding among Pakistani adolescent girls due to cultural barriers (79). Instead of formal sources, adolescents often turn to peers, media, and the internet for information due to

intergenerational communication gaps with parents and societal taboos. The absence of comprehensive sexuality education in schools further emphasizes the need for improved sexuality education in Pakistan.

A significant contributor to child marriage and adolescent pregnancy in Pakistan is the prevalent **gender inequality**. Girls are often perceived as liabilities from birth, unlike the celebration surrounding their male counterparts. In Pakistan's male-dominant societal framework, families tend to assign lower value on their daughters' education. The prevailing expectation for daughters is primarily centred around the role of a wife and transitioning to their husband's household, thereby constraining their aspirations and expectations within prescribed gender roles. Girls are often seen as "sexual objects", lacking the agency to make decisions concerning their lives, especially their sexual and reproductive health (SRH). Their mobility is constrained, and their social network is limited, exacerbating their challenges.

The UNFPA socioecological **framework** is comprehensive and specifically adapted to address the various determinants of adolescent pregnancy. It proves valuable in exploring multiple determinants across different levels in the context of Pakistan. However, it falls short of acknowledging the influence of religion on adolescent pregnancy. In the Pakistani context, faith significantly shapes community and familial attitudes toward child marriage and adolescent pregnancy. Furthermore, the significant interconnectedness among determinants at all levels makes isolating findings challenging. As a result, the findings may initially emerge in relation to one set of determinants, which could also have relevance at another level.

Adolescent pregnancy in Pakistan often occurs within the **context of marriage**. Child marriage is entrenched in Pakistan, influenced by poverty, limited education, rural living, and inadequate reproductive health services. Child marriage stands as a clear violation of fundamental human rights and international obligations, as enshrined in agreements such as the Convention on the Rights of the Child. Pakistan has affirmed its commitment to human right international agreements including Sustainable Development Goals (SDGs), the Convention on the Rights of the Child (CRC), and the Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW). It is imperative that these commitments are effectively incorporated into Pakistan's legal and policy frameworks, ensuring the equitable recognition, safeguarding, and advancement of the sexual and reproductive health and rights (SRHR) of adolescents, devoid of bias or discrimination.

From my point of view, the gap between the global approach to addressing adolescent pregnancy and the realities in developing countries like Pakistan needs to be highlighted. While the worldwide conversation emphasizes women's agency, informed decision-making, intentions, and desires concerning adolescent or unintended pregnancy, women in developing countries remain deprived of fundamental human rights, including lack of autonomy, limited mobility, and access to education and healthcare.

Eventually, several effective interventions have been implemented worldwide to address adolescent pregnancy. This study highlights four key interventions in the South Asia region that have been assessed as effective:

1. The **Cash Transfer program**, such as the Female Secondary School Stipend (FSSP) in Pakistan, focuses on enhancing girls' educational achievements and reducing gender disparities.
2. The **Community Mobilization Intervention**, exemplified by the Shornokishoree Network in Bangladesh, aims to raise awareness among young individuals about the negative consequences of child marriage and empower them with knowledge regarding their sexual and reproductive health rights.
3. The **Community-based interventions** like the PRACHAR project and 'Improving Sexual and Reproductive Health of Young People by Increasing the Age at Marriage and Delaying the First Pregnancy' project in India work towards raising the minimum age of marriage, delaying the onset of pregnancy, and promoting increased schooling to postpone marriages.
4. The **Development Initiative Supporting Healthy Adolescents** (DISHA) in India involves community-level efforts, including mentoring and community discussions, expanded health services, comprehensive sex education, contraception education, and life skills training for individuals.

In my opinion and considering the reviewed literature, a community-based intervention appears to be a viable approach for tackling adolescent pregnancy in Pakistan, targeting its primary drivers. Drawing from the Indian experience, which serves as an evidence-informed program, Pakistan could adopt similar strategies to address the issue of child marriage and adolescent pregnancy effectively.

limitations and strengths

The absence of data and information on unmarried adolescents in Pakistan poses a significant limitation when looking at the occurrence of adolescent pregnancy. The unavailability of data regarding unmarried adolescents is acknowledged in PSDH, and existing data primarily focuses on ever-married women. The lack of specific information regarding unmarried individuals limits understanding the true scope and dynamics of adolescent pregnancy in Pakistan. It could lead to underestimating the true extent of adolescent pregnancy in Pakistan. The recent PSDH conducted in 2017-2018, now five years old, may not reflect current situation of adolescent pregnancy. Many of the utilized studies were limited to specific geographical areas or employed small sample sizes, limiting their findings' generalizability and impacting external validity. Triangulation of information was used to enhance comprehensive understanding by using multiple data sources, including scientific articles, peer reviews, grey literature from different international organizations, and national reports.

Chapter 7: Conclusion and recommendation

This chapter present a summary of the main findings of adolescent pregnancy determinants in Pakistan and the effective interventions. Also, the chapter displays the study recommendations.

7.1 Conclusion

Various interconnected determinants across different levels influence adolescent pregnancy in Pakistan. Poverty drives families to resort to child marriage due to financial struggles, exacerbated by weak enforcement of child marriage laws. Societal norms and religious beliefs perpetuate the practice, pressuring girls to marry early and prove their fertility. Gender inequality further contributes, as girls are undervalued, limiting their education and autonomy. Education plays a protective role in reducing the likelihood of adolescent pregnancies. Strict laws, biased attitudes, and societal taboos hinder access to contraception. Comprehensive sexual education is lacking; adolescents often rely on peers and media for information.

Effective interventions, such as cash transfer programs, community mobilization, and community-based initiatives, have been implemented in South Asia region to address adolescent pregnancy. These strategies aim to raise awareness, increase marriage age and delay early pregnancy, and provide comprehensive education and services. Considering the literature, a community-based intervention similar to successful Indian models could be an effective approach to address adolescent pregnancy in Pakistan.

7.2 Recommendations

The study indicates evidence-inform approaches and interventions to address adolescent pregnancy based on its findings. The below recommendation encompasses a range of levels, including policy makers, national initiatives, community engagement, SRHR programme implementers, and research efforts.

1. Strengthen and enforce laws against child marriage and ensure equitable access to contraception, aligning policies with international commitments and promoting adolescent sexual and reproductive health and rights (SRHR).
2. Implement a culture-sensitive and tailor-made program of comprehensive sexuality education programs in schools and communities to provide accurate information, promote healthy attitudes, and empower adolescents to make informed decisions about their sexual health and rights.
3. Create Parent-Adolescent Dialogue platforms for open and informed discussions between parents, caregivers, and adolescents about sexual health matters, breaking down taboos and fostering a supportive environment and bridging the intergenerational communication gap.
4. Develop strategies and interventions that challenge and transform gender norms, empowering adolescent girls and boys to pursue education, delay marriages, and make informed choices about their reproductive health.

5. Establish peer education initiatives that promote accurate sexual health information, dispel myths, and influence positive behaviours among adolescents.
6. Address the influence of poverty and economic disparities on adolescent pregnancies by implementing programs that provide opportunities for education, skill development, and livelihoods for adolescent girls.
7. Engage communities in awareness campaigns, workshops, and discussions to raise awareness about the consequences of child marriage and adolescent pregnancies and promote supportive environments.
8. Establish and improve access to adolescent-friendly sexual and reproductive health services, ensuring all adolescents have the knowledge and resources to make informed choices.
9. Foster collaboration between government agencies, non-governmental organizations, educational institutions, healthcare providers, and community leaders to develop holistic interventions addressing adolescent pregnancy determinants.
10. Conduct further research to understand better the cultural, religious, and societal factors contributing to adolescent pregnancies, informing targeted strategies and interventions.

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ANNEXES

Annex 1: Adolescent pregnancy in Pakistan

Table 5.11 Teenage pregnancy and motherhood

Percentage of women age 15-19 who have had a live birth or who are pregnant with their first child, and percentage who have begun childbearing, according to background characteristics, Pakistan DHS 2017-18

Background characteristic	Percentage of women age 15-19 who: Have had a live birth	Are pregnant with first child	Percentage who have begun childbearing	Number of women
Age				
15-17	1.5	1.4	2.9	2,625
15	0.4	0.4	0.8	998
16	1.4	1.6	3.0	823
17	3.0	2.4	5.4	804
18	7.9	5.2	13.1	986
19	16.8	2.6	19.4	787
Residence				
Urban	5.0	1.6	6.6	1,344
Rural	6.0	2.8	8.8	3,042
Education				
No education	10.9	4.2	15.1	1,326
Primary	6.3	3.1	9.4	686
Middle	3.9	2.0	5.9	761
Secondary	2.7	1.4	4.1	1,014
Higher	(1.1)	(0.3)	(1.3)	528
Wealth quintile				
Lowest	7.7	2.4	10.1	836
Second	7.3	2.8	10.1	972
Middle	5.5	2.8	8.3	993
Fourth	4.8	2.9	7.7	741
Highest	3.3	1.4	4.7	784
Region				
Punjab	4.3	2.0	6.2	1,991
Urban	(3.9)	(1.5)	(5.4)	540
Rural	4.9	2.4	7.2	1,309
Sindh	7.5	2.4	9.9	854
Urban	6.9	1.8	8.7	473
Rural	8.2	3.0	11.2	387
Khyber Pakhtunkhwa	9.2	5.5	14.8	682
Urban	5.9	3.0	8.9	118
Rural	9.9	6.1	16.0	565
Balochistan	9.4	2.2	11.6	294
Urban	(6.7)	(1.3)	(8.0)	86
Rural	10.4	2.5	12.8	212
ICT Islamabad	(3.3)	(1.6)	(5.0)	29
FATA	9.8	3.4	13.2	103
Total[1]	5.7	2.4	8.1	4,398
Azad Jammu and Kashmir	(2.8)	(0.5)	(3.3)	479
Gilgit Baltistan	(5.0)	(1.6)	(6.6)	428

Annex 2: UNFPA's socio- ecological model of adolescent pregnancy determinants