Kingdom of Cambodia

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Sexual and Reproductive Health of Adolescents and Youth in Cambodia

Analysis of 2000 - 2014 Cambodia Demographic and Health Survey Data

National Institution of Statistics

Ministry of Planning

Directorate General for Health

Ministry of Health

Phnom Penh, Cambodia

September 2016

This report presents findings from a secondary analysis of four waves of the Cambodia Demographic and Health Surveys, 2000 to 2014, with support from the United Nations Population Fund (UNFPA) and Australian in Cambodia. Additional information about the Cambodian Demographic and Health Survey (CDHS) can be obtained from the National Institute of Statistics; 386 Monivong Boulevard, Sangkat Beong Keng Kang 1, Chamkar Mon, Phnom Penh, Cambodia; Telephone: (855) 23-213650; E-mail: linahang@hotmail.com; Home Pages: www.nis.gov.kh

Suggested citation:

AUTHORS. "Sexual and Reproductive Health of Adolescents and Youth in Cambodia Analysis of 2000 - 2014 Cambodia Demographic and Health Survey Data." 2015. Phnom Penh, Cambodia: UNFPA and National Institute of Statistics.

CONTENTS

LIST OF TABLES

LIST OF FIGURES

EXECUTIVE SUMMARY

Cambodia has the youngest population in Southeast Asia, with 22 % aged 15 and 24 years. Young people face many sexual and reproductive health concerns such as sexually transmitted infections, unwanted pregnancies, unsafe abortion, STIs, HIV and AIDS. These health concerns are exacerbated by the lack of sexual and reproductive health information, knowledge, youth friendly services, poor education attainment (i.e. low school enrolment, high dropout rates, and high repetition rates), and rural to urban migration for employment often placing young people at a social and economic disadvantage, especially those living in rural areas. Limited information is available about the sexual and reproductive health of adolescents and youth in Cambodia, and information that is available generally relates to sub-populations.

One aim of this report was to describe the current state of the sexual and reproductive health of adolescents and youth in Cambodia and this was achieved through the analysis of data on young women aged 15-24 years from the four Cambodian Demographic and Health Surveys (CDHS) conducted in 2000, 2005, 2010 and 2014. Descriptive analyses of key areas of sexual and reproductive health; namely marriage and sexual behaviour, family planning and contraceptive use, adolescent pregnancy and motherhood, knowledge of HIV and AIDS, and the occurrence of symptoms of sexually transmitted infections (STIs); allowed trends over a fifteen year period to be examined. Each of these key areas were stratified by age, urban/rural location, province or region of Cambodia, education, socio-economic status and where appropriate gender and religion. As the DHS are cross-sectional surveys it is not possible to establish causal relationships among variables.

The number of young women marrying before the age of 20 years decreased between 2000 and 2014 although early marriage remains more prevalent in rural areas compared with urban areas. Rates of teenage marriage among young men have remained relatively constant across the survey years. Females report that sexual intercourse prior to marriage is rare while we see a steady increase in pre-marital sex with age among young males. For young women, the mean age difference between themselves and their most recent sexual partner decrease with age. On average, there is a six-years age difference between sexually active 15-17 years old females and their most recent sexual partner and this difference is only four years for 20-24 years old females who have had sex. Females almost exclusively report that their most recent

sexual partner was their spouse or cohabiting partner compared with only three quarters of young men.

There has been a significant decline in the number of young women who have a comprehensive knowledge about the risk factors for HIV infection and although the percent of young men who have a comprehensive knowledge about risk factors for HIV has remained consistent from 2005 to 2014, overall the rates of condom use have decreased significantly across that period. Adolescent males living in urban areas report higher rates of condom use than those from rural areas and rates of condom use increase with education and socioeconomic wealth quintile.

While there has been a significant increase in the percent of young women using modern contraceptive methods to assist with family planning, this has occurred alongside an increase in the use of traditional methods. Of particular note is the increasing use of traditional methods in young women with higher education levels and from wealthier socioeconomic quintiles. However, the vast majority of sexually active young women are not using any form of contraception, especially those under 20 years of age.

Although at the population level there appears to be a dramatic decline in the percent of young women reporting an unmet need for family planning, we found that many using less reliable traditional methods of contraception are reporting that their needs for planning and spacing pregnancy are being met. When we consider that two thirds of unplanned pregnancies in young females occur in those using traditional methods of contraception the figures on unmet need are misleading. The age-specific fertility rates (ASFR) have decreased in females living in urban areas but this was not seen in rural areas and there was actually a sharp rise in the ASFR in young rural women under 20 years of age between 2010 and 2014. The differential between the rates of childbearing between urban and rural areas has increased over the fifteen year period and there is a strong inverse relationship with childbearing and education. Similarly, socioeconomic quintile is inversely related to childbearing.

As noted above the vast majority of young women report that sexual intercourse takes place almost universally within marriage but closer examination of timing of marriage and birth of first child reveals that a number of young women give birth within eight months after marriage and therefore must have been pregnant at the time they married. The number who

are in this position has declined since 2000. For adolescents aged 15 to 19 years approximately one in ten were pregnant at the time of marriage in 2005 and 2010 and this had dropped to about one in twenty by 2014.

More than one in twenty young married women aged 15 to 24 years has had an abortion and the introduction and broader availability of medical abortions has corresponded with a decline in the number of surgical abortions being performed. However, the increase in medical abortions has also been accompanied by an increase in the percent of young women who have an incomplete medical abortion which leads to the need for a follow-up surgical abortion. In 2014 almost one in ten abortions required both medical and surgical interventions.

The World Health Organisation (WHO) guidelines state that women should receive a minimum of four antenatal care (ANC) visits at specified intervals during each pregnancy. Data indicate that there has been a dramatic increase in the proportion of young pregnant women in Cambodia who receive at least four ANC visits and the number attending their first visit between weeks 8-12 of the pregnancy has also increase dramatically. Similarly, there has also been an increase in the number of young women who see a health professional for ANC but multiple ANC carers could be recorded and the most highly qualified person in the list was recorded as the primary caregiver. This may overestimate the ANC that is delivered by a health professional as they may not be the actual person who provided the majority of the care.

In general indicators of sexual and reproductive health in young women in Cambodia have improved between 2000 and 2014. However, this report identifies some discrepancies in those trends and the subgroups who are most in need of interventions to make sure there is equality in opportunities to improve sexual and reproductive health outcomes for all young women. The sexual and reproductive health and rights of young Cambodians is an urgent public health concern that needs to be addressed by all levels of government and key stakeholders, especially policy makers. The Royal Government of Cambodia and key stakeholders need to commit to ongoing financial and human resources to ensure that all young people especially, unmarried and high risk populations, rural to urban migrants, those living in poor social and economic situations, young people with a disability, and those living in rural and remote areas have access to youth friendly services. All sexual and reproductive health interventions for adolescents and youth need to follow WHO guidelines for youth

friendly services and must incorporate robust evaluation processes in all elements of the intervention.

1. INTRODUCTION

1.1 OVERVIEW OF ADOLESCENT AND YOUTH SEXUAL AND REPRODUCTIVE HEALTH

Today's generation of adolescents is the largest in history. Nearly half of the global population is less than 25 years old (Bearinger et al 2007). Negative outcomes of early pregnancy and sexually transmitted infections (STIs), including HIV and AIDS, threaten the health of people in the second decade of life more than any other age group. At the same time, adolescents are the greatest hope for turning the tide against STIs, AIDS, and early pregnancy. Young adolescent girls' immature reproductive and immune systems make them more susceptibility to STIs and HIV transmission; pregnancy and delivery for girls who have incomplete body growth exposes them to problems that are less common in adult women (Marsden & King 2006). Many societal issues also contribute to risks for adolescents such as the age differences between heterosexual partners (younger girl and older male partner), gender differences in norms for males' and females' sexual behaviour and early marriage for girls (Godha, Hotchkiss & Gage 2013) which can heighten the possibility of sexual coercion (Baltag & Chandra-Mouli 2014). In many low and middle income countries (LMICs) some young people experience pressure to become sex workers or work in the entertainment industry as it is the only available option for contributing to the food and shelter needs of their family (Nishigaya 2002). These young people have a heightened risk of STIs, pregnancy, and violence, but may avoid health care for fear of being judged or stigmatised (Sandy 2016).

Although young people are developmentally distinct from children and adults in terms of physical maturity, cognitive capacity, and social skills, historically, health services for adolescents have not been differentiated in many LMICs including in Cambodia. For unmarried adolescent boys and girls, services are offered as part of child health care and rarely do they include sexual and reproductive health (SRH) programs for unmarried

adolescents and youth. Most SRH services focus on reproductive care for adult women in particular married women. Sexual and reproductive health services for males generally do not exist at all (Bearinger et al 2007). However, in many LMICs such as China and Bangladesh there is emerging evidence, albeit limited, on ways pro-youth health initiatives can improve the way health services are delivered and at the same time increase their use by young people (WHO 2012a). Unfortunately, limited evidence is available from other countries in the Asia Pacific Region, as many of these initiatives have not been appropriately assessed (Tylee et al 2012).

1.2 NATIONAL SEXUAL AND REPRODUCTIVE HEALTH POLICIES, PROGRAMS AND PRIORITIES FOR ADOLESCENTS AND YOUTH

The primary policy framework that addressed the SRH of adolescents and youth in Cambodia is the second Cambodia Ministry of Health (MoH) *National Strategy for Sexual and Reproductive Health in Cambodia 2012-2016* (MoH 2012). This strategy is being implemented through the MoH National Reproductive Health Programme (NRHP) to provide a framework for an effective and coordinated response to the SRH needs of male and female Cambodians.

The NRHP of the National Maternal and Child Health Centre (NMCHC), developed the first *National Strategy for Reproductive and Sexual Health* (NSRSH) (2006-2010) and adolescent and youth reproductive health was included as one of the components of reproductive health. In order to operationalize this strategy, the NRHP/NMCHC introduced National Guidelines for Adolescent and Youth Friendly Services in 2008 and the Training Manual in 2007. The two documents are currently being reviewed and updated (UNFPA & Royal Government of Cambodia (RGOC) 2016).

The Health Strategic Plan (HSP II) 2008–2015 and the Draft HSP III 2016–2020 recognizes reproductive, maternal, newborn and child health as the most important priorities facing the health sector. Political commitment to maternal health is also reflected in the MoH's Fast Track Initiative Road Map for Reducing Maternal and Neonatal Mortality 2016–2020, which sets out the priority interventions for the next five years in order to meet Cambodia's HSP III goals and targets.

Through UNFPA Country Programme (2011-2015), the Ministry of Education, Youth and Sports (MoEYS) will implement Comprehensive Sexuality Education (CSE) curriculum in

schools from pre-school to Year 12 in seven provinces. The CSE curriculum incorporates basic SRH issues as part of overall life skills for the peer education programme and it will be a compulsory topic in public schools. In 2014, the Minister of MoEYS agreed that CSE could be integrated into the core curriculum as part of the new Education Strategic Plan (ESP) 2014-2018. The implementation of the new national curriculum is currently scheduled to start in the 2018-2019 school year (UNFPA & RGOC 2016).

The Ministry of Women's Affairs has two key policy documents that address gender equality and empowerment of Cambodian women and they include the *National Action Plan to Prevent Violence Against Women 2014-2018* (Ministry of Women's Affairs 2014a) and *Neary Rattanak IV* (Ministry of Women's Affairs 2014b) which is a five-year strategic plan (2014 – 2018) for gender equality and the empowerment of women in Cambodia. The MoH *National Guidelines for Managing Violence against Women and Children* (NGMVAW/C) in the health sector was launched by the MoH in 2015 and it is a clinical handbook for health providers (UNFPA & RGOC 2016).

1.3 ADOLESCENT SEXUAL AND REPRODUCTOVE HEALTH

Globally, in 2010, young people aged 15-24 years experienced the highest rates of STIs of any age group and they accounted for 42% of new HIV infections (UNAIDS 2011). An estimated 16 million girls aged 15-19 give birth every year and they represent nearly a quarter of the ill health related to pregnancy and childbirth, including the consequences of unsafe abortion (Wong 2012). Maternal health complications are among the leading causes of death of females 15-19 years in LMIC (Patton et al 2012). Approximately 30% of females aged 15-24 have ever experienced physical and/or sexual violence and a significant proportion of young people report that their first sex was coerced or forced (WHO 2013). The key determinants of young people's sexual and reproductive health include: cultural and gender norms and socialization, social and economic status, geographic location and education.

In most countries in the Asia Pacific Region young people are living in traditional family and community environments where traditional gender roles and social norms exist especially around premarital sex; males are permitted to have multiple partners before marriage and females are not. This is true for Cambodia (Fordham 2003) especially during adolescence when girls are expected to uphold the virtue and honour of their family by taking care of their

reputation and maintaining their virginity until marriage. When such norms are not upheld and young women engage in sexual activity prior to marriage they experience significant stigma in the community setting which inhibits their access to information and services (Kaljee et al 2007). In many Asian societies gender norms also impact negatively on young men as they are expected to be sexually experienced, or a perception that their status depends on their sexual conquests which contributes to risky sexual behaviour, such as early onset of sexual behaviour, increased number of partners (Wu *nd*) and engaging in sex with commercial sex workers, which in the context of inconsistent condom use, can increase their risk of STIs and HIV infection (Haque & Soonthorndhada 2009; Siyan et al 2014). However traditional gender norms are gradually changing in most Asian societies albeit at different rates (Zabin et al 2009) due to urbanisation, globalisation and increasing access to the media and internet which expose young people to a great diversity of ideas, attitudes and norms resulting in young people's attitudes towards sexual activity changing (UNFPA, UNESCO & WHO 2015).

Young people who are socially and economically disadvantaged are at higher risk of poor SRH in many settings. Young people of lower socio-economic status who are homeless (Towe et al 2009), refugees (Belton 2005), live in urban slums (Powwattana 2009) and economic zones (Wu *nd*) report higher rates of premarital and high risk sexual behaviour. Young rural to urban migrants suffer poorer SRH outcomes (Sudhinaraset, Astone & Blum 2011), in particular males who are significantly less likely to report condom use at first sexual encounter and consistent contraceptive use with their first partner compared with non-migrants and urban-to-urban migrants. Female unmarried (younger) migrants are more vulnerable compared with their married peers as they are sexually more active, and have significantly less access to women's health information and services. Young female migrants are also more likely to have an induced abortion at later stages of pregnancy and lower rates of post-abortion care (Mou et al 2013). Young people living with a disability also have significant SRH needs and often face social, economic and physical barriers accessing information and services and/or experience violations of their sexual and reproductive rights (Gartrell 2016). Limited data is available about the SRH of young people living with a disability in the region.

In many settings, including in Cambodia, increased educational attainment is associated with delayed age at first marriage and first sex for adolescent girls. Young males and females who

attend school are more likely to delay their sexual debut, have a better perception of their own risk related to STIs and HIV, and are more likely to practice safer sex and reduce risky sexual behaviours such as having multiple partners and non-use of condoms (Rahman, et al 2012; Siyan 2014). Additionally, young people are less likely to use modern contraception instead they resort to less effective contraceptive methods such as withdrawal or do not use a contraceptive method placing them at higher risk of STIs, HIV and unplanned pregnancies that end in unsafe abortions, especially in countries with highly restricted legal abortion legislation (UNFPA, UNESCO & WHO 2015).

1.4 SEXUAL ACTIVITY

Demographic trends reveal a widening gap between sexual maturity and age at marriage, which results in premarital sexual activity among adolescents (UNESCAP 2009). National level data that describes sexual activity of young people, particularly unmarried young people and young adolescents (10-14 years) are limited for many countries (UNFPA, UNESCO & WHO 2015). The available evidence suggests that social desirability bias and recall bias may exert a strong influence on reports of childbearing, sexual debut and marriage by adolescents (Mensch et al 2014). The accuracy of DHS based estimates of these widely reported indicators is poorly understood and even less is known about the reliability of data when these events occur in early adolescence (Neal & Hosegood 2015). However, available evidence in countries in Asia and the Pacific suggests that many young people initiate sexual activity during adolescence (Kennedy et al 2011) and in countries where there is higher rates of early marriage among girls a greater proportion of young women have ever had sex compared to the rates of young men (UNFPA, UNESCO & WHO 2015). Conversely, where early marriage of girls is less prevalent, boys are more likely to have ever had sex than girls, reflecting more permissive attitudes towards premarital sex among boys. With the gap between age at first sexual intercourse and age at marriage widening in many LMICs more people are sexually active before marriage than in the past and for longer duration (Bearinger et al, 2007).

Analysis of DHS reports from 33 LMICs in the East Asia and the Pacific region (Kennedy et al 2011) found that the median age of sexual debut for women aged 25-49 years ranged from

17.3 to 21.9 years, which is similar to age at first marriage. The proportion of women who commenced sexual activity before they were 15 years old varies considerably, from 0.5% in Tuvalu to 12.3% in Nauru. Similar findings were found in DHS and MICS survey data analysis (2006-2013) for countries in Asia and Pacific region (UNFPA, UNESCO & WHO 2015) where premarital sex is more common in the Pacific than it is in Asia: over half of the 15-24 years old report sex before marriage in the Pacific countries of Marshall Islands, Solomon Islands and Nauru. A greater proportion of urban young people report sex before marriage than their rural peers who are more likely to be married at a younger age. For example, in Cambodia 18% of young men in urban areas have had premarital sex compared with 6% in rural areas (National Institute of Statistics (NIS), Directorate General for Health, and ICF Macro, 2011). In Cambodia (Yi et al. 2014) and in other Asian countries (Guo et al, 2012; Lee et al 2008; UNFPA 2013; Yi et al 2011) young men are more likely to have their first sexual intercourse at a younger age and to have premarital sexual intercourse than girls the same age. However, girls are more vulnerable to the hardship and changes in socio-economic conditions and more likely to be coerced into their sexual debut and exploitation than young males (Hegde, Hoban & Nevill 2010; Mauney 2014). Despite these emerging trends, for most young people in Asia the onset of sexual activity coincides with first union. However, this trend is changing due to the increased age of marriage (UNFPA 2013), changing social and cultural norms (Tangmunkongvorakul et al 2011; Yu 2010; Zabin et al 2009) and economic circumstances (Zabin et al 2009) which has resulted in young people commencing sexual activity at a younger age.

Other studies have focused on sub-groups of young people in countries in the Asia and Pacific region such as in-school young people (Chan et al 2013), internal migrants (Mou 2013; Wu *nd*), international migrants (Hegde, Hoban & Nevill 2010,) garment industry workers (Read 2014; Shone 2015), entertainment workers (Yi et al 2015) and all studies show a trend in earlier age of first sexual experience and sexual activity before marriage.

1.5 CHILD MARRIAGE

Child marriage is defined as first marriage before 18 years of age (UNFPA, UNESCO & WHO 2015). Globally, more than 14 million girls marry each year as children and many of the girls are less than 15 years old. Overall 46% of women aged 20-24 in South Asia were married before the age of 18. Child marriage remains pervasive in South Asia, where more than half of all child marriages occur. Of all girls married in childhood 1:3 are from India

(Raj et al 2009). In Cambodia, the 2014 Cambodia Demographic and Health Survey (CDHS) found 15.6% of 15-19 year old respondants were in a union (National Institute of Statistics, Directorate General for Health, and ICF International, 2015). Studies from South Asia found that child marriage is associated with a rapid repeat childbirth, current modern contraceptive use, female sterilization, non use of contraception before the first childbirth, pregnancy termination, unintended pregnancy, and inadequate use of maternal health services. Importantly females who married in early adolescence or childhood show a higher propensity towards many of the negative maternal health outcomes compared with females who married in middle adolescence (Godha, Hotchkiss & Gage 2013; Raj et al 2009).

1.6 ADOLESCENT PREGNANCY AND CHILDBIRTH

Adolescent fertility rates in all countries in the Asia and Pacific Region have declined in the last twenty years except in the Phillipines. The greatest reduction in fertility rates is seen in South Asian countries where it declined by almost 40% due to the decrease in the number of child marriages in these countries (UNDP 2013). Fertility rates are higher in areas where early marriage is prevelant among rural female adolescents compared to their counterparts living in urban areas. The 2014 CDHS found that age specific fertility rates (ASFR) for 15-19 years old females in 2014 was 57 per 1000 women and for 20-24 years old females it was 162 per 1000 women and approximately 1 in 8 women (12 percent) age 15-19 years have become mothers or were currently pregnant with their first child at the time of the survey (National Institute of Statistics, Directorate General for Health, and ICF International, 2015). The percentage of females aged 15-19 years who had begun childbearing demonstrates a sharp increase in teenage fertility in recent years in Cambodia.

About 16 million females 15 to 19 years give birth each year, which equates to approximately 11% of all births worldwide (Loaiza & Liang 2013). They account for 23% of the overall burden of disease (disability- adjusted life years) due to pregnancy and childbirth. Ninety five percent of these births occur in LMICs. Recent trends in Asia demonstrate that up to 25% of first births that occur before aged 20 were conceived before marriage suggesting that premarital sexual activity may result in earlier marriage for adolescent girls than was planned (UNFPA, UNESCO & WHO 2015). Genreally, childbirth among unmarried adolescent mothers are more likely to be unintended and result in an induced abortion, and are associated with anaemia, malaria, HIV and STIs, postpartum haemorrhage, obstetric fistula and mental illness such as depression. A study commissioned by WHO (Ganchimeg et al 2013) in 29

countries (n=124,446) exploring pregnancy and childbirth outcomes among adolescents found that compared to adolescent mothers aged 20–24 years, adolescent mothers aged 10–19 years had higher risks of eclampsia, puerperal endometritis, systemic infections, low birthweight, preterm delivery and severe neonatal conditions.

Many adolescent pregnancies are a result of human rights violations such as coerced sex, child marriage and abuse (Chandra-Mouli, Camacho & Michaud 2013). Coerced sex is reported by 10% of females who had sex for the first time before age 15 years and contributes to unwanted adolescent pregnancies (WHO 2016). A study in Thailand with adolescent females 16 years of less who had given birth to one or more infants found that a high percentage of the adolescents had a drug addiction, STIs, including HIV, they had not accessed prenatal care and were not taking contraceptives prior to pregnancy. Although it was a first pregnancy for most of the adolescents, some of the female adolescents had had an abortion, spontaneous or otherwise (Chantrapanichkul & Chawanpaiboon 2013).

Childbearing among adolescents is more prevelant in rural areas (Chandra-Mouli Camacho & Michaud 2013; Vogal et al 2015), such as in Laos where 24% of rural adolescents had their first birth by age 18 compared to 6% of urban adolescents. Female adolescents who are less educated and come from poorer households are also more likely to give birth before 18 years. The social consequences of adolescent pregnancy include: school dropout, lower education attainment (Yi et al 2015), decreased social support, especially younger adolescents (WHO 2006a), unemployment and poor economic opportunities resulting in reduced lifetime earnings (WHO 2012b). Adolescents often enter pregnancy with poor nutritional stores threatening fetal and maternal health (Bealinger et al 2007) and they are more likely than older women to give birth to preterm and low birth weight infants (less than 2,500 grams) or very low-weight infants (less than 1,500 grams) (WHO 2006a). Impaired fetal growth is more common in pregnancy when the females is 18 years or younger and it is a strong precursor of adult diabetes (Norris et al 2012).

Adolescents may be disadvantaged in maintaining a healthy pregnancy because they have limited health education, inadequate access to antenatal care and skilled birth attendants or other healthcare services, or their inability to afford the financial costs of pregnancy and childbirth (including transport, admission, skilled birth attendance and related costs). This confluence of intrinsic and extrinsic risk factors may increase adolescent's risk of mortality

and severe morbidity during pregnancy, childbirth and the postpartum period. However, findings from observational studies are often conflicting and it is difficult to establish whether the increased obstetric risks are due to biological or socioeconomic factors, inequities of availability and access to maternity care services, regional variations in adolescent health or circumstances, or a combination of these (Vogal et al 2015). Studies in the Asia Pacific region, including in Cambodia, indicate that rural-to-urban migrant adolescents who live and work in unfamiliar and vulnerable environments, with limited social networks (Wong & Lam 2013) and experience financial constraints often have limited awareness of maternity services which result in poor maternal health outcomes (Oon 2015; Read 2014; PSL 2015). However, a study in China found that female adolescent rural-to-urban migrants with a higher education level, who resided with their partner and had a higher wealth status had higher rates of antenatal care (Zhao et al 2009).

1.7 ABORTION

Globally around half of all unintended pregnancies end in induced abortion. Women under 25 years account for 34% of all unsafe abortions (11% among 15-19 years old and 23% among 20-24) (Shah & Ahman 2012). About 2.5 million adolescents have unsafe abortions every year, and adolescents experience more abortion related complications than older women (WHO 2016). Unsafe abortion is defined by the World Health Organization (2014) as a procedure for terminating an unintended pregnancy carried out by either persons lacking the necessary skills or in an environment that does not conform to minimal medical standards, or both. Unsafe abortion can result in lasting and devastating consequences, including, sepsis, perforation of the uterus or intestines, haemorrhage, chronic pelvic infection, and infertility (Bayer, Cheetham & Robbins 2011). Many women, especially adolescents and poor women cannot afford to access safe abortion services and those that are available are often geographically unreachable or there is a shortage of trained providers to perform the abortion (Singh et al 2009). Data on induced abortions in the Asia Pacific region, particularly in countries in the Pacific, are very limited. Available DHS data in the region suggests that between 0% and 4% of 20 to 24 years old have had an induced abortion, however this is considered to be an under estimate because of the stigma associated with reporting an abortion, especially in countries where abortion is highly legally restricted (UNFPA, UNESCO & WHO 2015).

In Cambodia where abortion has been legal since 1997 induced abortion increases with age (National Institute of Statistics, Directorate General for Health, and ICF International, 2015). The percentage of women who have had at least one abortion increases sharply from less than 1 percent at age 15-19 to a peak of 21 percent at age 35-39 before declining to 20 percent at age 40-44 and 16 percent at age 45-49. In 2014 among 15-19 years old females, 99% had not had an abortion, 0.6% had one abortion and 0.2% had two abortions. Among 20-24 years old females 94.6% had not had an abortion, 4.8% had one abortion and 0.4% had two and 0.1% had three abortions. The 2014 CDHS also found that among 15-24 years old females 3.1% had had an abortion in the 5 years prior to the survey and among this group 55% had an abortion before 2 months gestation, 44% between 2-4 months and 0.9% at 5 months or more gestation. Among 15-24 years old females who had an abortion in the 5 years prior to the 2014 CDHS, 53.7% of women had a surgical abortion and 54.6% had medical abortion (National Institute of Statistics, Directorate General for Health, and ICF International, 2015). A study in Cambodia with most-at risk young people 10 to 24 years found that among sexually active girls, 43.5% (n= 1,166) reported having been pregnant and of them, 42.4% reported having had an induced abortion as a result of their most recent pregnancy (Yi et al 2014).

In many Buddhist societies, such as in Cambodia, Thailand and Laos, abortion is considered a sin (Hoban 2013). For this reason, many trained abortion providers elect not to perform abortion services which results in young women seeking the clinical services of untrained providers or purchasing the abortion medications from untrained sellers in local pharmacies (Oon 2015; Read 2014); the latter is an increasing trend in Southeast Asia countries including in Cambodia (Hoban 2013; Whittaker 2013). In addition, marginalized young women such as those living with HIV, ethnic minority women and entertainment workers (Yi et al 2015) may face stigma and discrimination when they attempt to seek safe abortion services which results in denial of care, or the young women are required to obtain authorization by a third party, even if this is not needed by law (Singh et al 2009). Confusion about the legality of abortion can deter some adolescents from seeking safe abortion services, even if legal abortion services are available, as is the situation in Cambodia (Oo 2015; Read 2014); this is one reason why unmarried adolescents purchase abortion medication from the pharmacy and manage their own pregnancy termination, often resulting in complications that require an urgent surgical intervention which incurs an additional financial and human cost (Hoban 2013).

1.8 FAMILY PLANNING

Sexual activity and unmet need for contraception are common among young people globally and research shows differences by age, sex, regional, social and economic and marital status. Because married young people experience social pressure to bear children, increasing access to contraception alone will be insufficient to ensure contraceptive use. Whereas unmarried adolescents have an unacknowledged and frequently unmeasured need for contraception. Their limited access to contraception leads to unwanted pregnancies and STIs and HIV with tragic consequences in particular in LMICs (Chandra-Mouli et al 2014).

The majority of married young people in the Asia Pacific region can name a modern method of contraception however few young people have a comprehensive knowledge of the methods (UNFPA 2015). More than 90% of young people aged 15-24 years in Cambodia can name more than one modern contraceptive method (Kennedy, et al 2011) and this did not change for wealth quantile, education status and geographic location (National Institute of Statistics, Directorate General for Health, and ICF International, 2015)

Contraceptive use among young people is a complex social phenomena and is influenced by a myriad of social, economic and political factors such as education, employment, wealth status, migration, social and cultural norms and barriers to accessing family planning services (United Kingdom, Department of International Development 2010). Many myths and misconceptions exist about the side effects of modern methods which leads to fear and non-use and a preference to either no method or traditional methods because they are perceived to be safer and more effective (Nguyen et al 2006). A study with female garment factory workers in Cambodia found that rumours and myths about the negative impact of contraceptive methods on women's body was passed relayed to them by their friends and relatives, and it was not based on their own experiences of the methods; this misinformation occurred despite women's exposure to family planning information through the mass media such as TV and radio (Levi Strauss & CARE 2013).

Use of modern contraceptive methods among currently married young women varies considerably in the Asia Pacific region. Fewer married 15-19 years old women are using any form of contraception compared with women aged 20-24 years. In all countries where data are available, use of modern methods is lower among women under 25 years than it is among

women aged 25 years or older; a larger proportion of young women who are using a method rely on less effective traditional methods such as periodic abstinence and the withdrawal method (Kennedy et al 2011).

Factors that contribute to low use of modern contraceptive methods among young people include limited knowledge about the methods and misconceptions about the side effects, social and cultural norms, female's lack of decision-making power (Klingberg-Allvin et al 2008) and limited or no access to youth friendly SRH services (Sychareun 2003). Unmarried young people face many barriers accessing modern contraception and they include: sociocultural disapproval of premarital sex, legislative and regulatory barriers that prevent unmarried young people from obtaining contraception and/or requirements for parental and spousal consent, and unapproachable and judgmental health worker's attitudes (Kennedy et al 2011; Klingberg-Allvin et al 2008). The unpredictable, infrequent pattern of sexual activity, or not using the method consistently and correctly, can also make it difficult for young people to plan for protected sex (Chandra-Mouli et al 2014). Barriers also exist for married young women, particularly where there are strong sociocultural pressures to have a child soon after marriage and to prove their fertility (Alesna-Llanto & Raymundo 2005). Importantly, where young women can communicate with supportive spouses they are more likely to use contraception to delay or space pregnancies (Myo Myo & Liabsuetrakul 2009). There is a significant unmet need for contraception (largely for birth spacing) for young married and unmarried people in the Asia Pacific region. In countries were age disaggregated data are available, between 8% and 43% of young married women want to avoid pregnancy but are not using any contraceptive method (including traditional methods) (UNFPA 2015). It is difficult to determine the unmet need for unmarried young people because data from this group around sexual behaviour and contraceptive use is limited and what data is available is often an under estimate or inaccurate.

Among married young women in the Asia Pacific Region who are using a contraceptive method, injectable, the pill and the condom are the main methods used (UNFPA, UNESCO & WHO 2015). Limited information exists on sexually active unmarried women's use of contraceptives. However, DHS data in the region indicates that the use of modern methods is low among unmarried young women. Instead, the young women are using less effective methods such as withdrawal, periodic abstinence and folk medicines or they are not using any method which places them at risk of an unintended pregnancy and STIs and HIV (Kennedy et

al 2011). Studies conducted in countries in the region found that non-use of contraceptives among unmarried young people relates to their intention to marry at some stage and have a family whereas married young people intend to have a family after marriage and for both groups contraceptive use is not their intention (Jejeebhoy, Zavier & Santhya 2014). In Cambodia among females 15-19 years, 95.4% were not using any contraceptive method, 1.4% were using a traditional method and 3.2% were using a modern method. Among 20-24 years old females, 70.3% were not using any method, 8.3% were using a traditional method and 21.4% were using a modern method (National Institute of Statistics, Directorate General for Health, and ICF International, 2015). Limited data is available on unmarried young people's knowledge of contraceptive methods.

1.9 STIs & HIV/AIDS

HIV and other STIs disproportionately affect young people, particularly females. Globally, about 380,000 new HIV infections occur among young women aged 15 to 24 every year (UNAIDS 2014a) and one adolescent aged 15 to 19 acquires HIV infection every 2 minutes (UNAIDS 2014b). In 2013, there were 250,000 new HIV infections among adolescents, of which two-thirds were among females, and about 120,000 adolescents died of AIDS related illnesses that year. Furthermore, adolescents are the only age group in which deaths due to AIDS have so far not decreased. In 2014 there were an estimated 620,000 young people aged 15-24 years living with HIV in Asia and the Pacific; just over half (53%) were males (HIV and AIDS data hub for Asia-Pacific 2016).

WHO estimated that annually almost 357 million new STIs occur worldwide and more than half of the new STIs occur in Southeast Asia and Africa (WHO, 2015). Throughout countries in the Asia Pacific region knowledge of STIs among youth and adolescents, with the exception of HIV, is limited; this is also true for Cambodia. Among 15 to 24 years old males and females in Indonesia, 80% and 56%, respectively, could not name any STIs (UNFPA, UNESCO & WHO 2015). In Malaysia, India and Pakistan the situation was similar where 44% of adolescents could name one or more STIs (Anwar et al 2010; McManus & Dhar 2008; Raheel et al 2007). Knowledge is an important predictor of HIV prevention behaviours. Most 15-24 years old young people have heard of HIV, however, as with STIs their comprehensive knowledge of transmission and prevention is low in all countries in the

region. Comprehensive knowledge is higher among urban and married young people, and higher among young adults compared with adolescents (UNFPA, UNESCO & WHO 2015).

The main sources of information about STIs and HIV among young people is friends and family (Por 2016; Reid 2015), social media (Wong, Marchant & Moreno 2015), television (BBC Media Action 2014), radio (Irvin & Weil 2006), drama (Cahill 2010), SRH Hotline (Ko Ko et al 2011), school education programs (Acharya Teijlingen & Simkhada 2009; Speizer, Magnani & Colvin 2003), mobile phone interventions (Cornelius & Appiah 2016; Marie Stopes Cambodia 2016), work place education programs (Cockroft 2014; Levi Strauss & CARE 2013; PSL 2014) and traditional songs (Yoshida et al 2012). However young people who are socially and economically disadvantaged (Kalamar, Bayer & Hindin 2016), have a disability (Gartrell 2016) and who live in rural communities (Lopez, Mukaire & Mataya 2016) do not have the same access to SRH information as their urban counterparts and they often rely on more traditional modes of health communication such as the radio and television (Kalamar, Bayer & Hindin 2016). Interventions that aim to increase young people's knowledge of STIs have been employed in LMICs, including in Cambodia, however many are small interventions, site and topic specific, have not undergone rigorous evaluation and therefore cannot be scaled up. Conversely, preventative interventions that have been rigorously assessed in LMICs have had a significant impact on reducing risky sexual behaviours among young people, especially through the use of mass media campaigns (Kim, Kols & Nyakauru 2001; Plautz & Meekers 2007) and they have demonstrated improved knowledge, attitudes, and subsequently self-reported behaviour (Bertrand & Anhang 2006). Although evaluations of interventions with young people are becoming more sophisticated, for example with the use of Audio Computer Assisted Interviews and other techniques to promote confidentiality, interventions that address sensitive behaviours such as sexual activity and abortion continue to be underreported and evaluation data may not be reliable (Kalamar, Bayer & Hindin 2016).

In the Asia Pacific region where there is national data, counties report that young males and females aged 15-24 years report different rates of STIs or symptoms of STIs. In Indonesia 17% of females reported STIs or symptoms of STIs versus 3% for males, whereas in Nauru it was 20% among females and 6% among males. The trend is the same for Cambodia where 11% of females and 3% of males self-reported a STI or STI symptoms in the 12 months before the 2014 CDHS (National Institute of Statistics, Directorate General for Health, and

ICF International, 2015). Research with sub-populations show similar trends, for example among female garment factory workers in Cambodia (mean age 26 years), 35% self-reported an STI but only 56% of the women received treatment at a public facility or specialist SRH clinic (RHAC 2012). Other sub-populations report high rates of STIs and symptoms of STIs, such as female entertainment workers (Webber and Spitzer 2010; Yi et al 2015), rural-to-urban migrant workers (Wu *nd*), and young military conscripts (Jatapai et al 2013), rural youth, especially males (Lopez, Mukaire & Mataya 2016) and men who have sex with men (Morineau et al 2011).

Young people who engage in high risk sexual behaviours, such as no condom use at sexual debut (Guo et al 2014), illicit drug use, alcohol abuse and multiple partners (Staras et al 2016) also self-report high rates of STIs and STI symptoms. Emerging research shows that alcohol use in the 2 hours before sex (referred to as in-the-moment use) is associated with risky behaviours such as sex with an older partner, casual and/ or non-consensual sex, sex in an 'unsafe' public place and inconsistent or no condom use (Claxton, DeLuca & van Dulmen 2015; Livingston et al 2015). However for females in LMICs the most common mode of risky sexual intercourse is through marriage; married adolescent females have more unprotected intercourse, have sex more frequently, and are less likely to protect themselves than unmarried adolescent females. The low social and economic status of adolescent females in many LMICs means that they are dependent on others—typically husbands or mothers (Kalamar, Bayer & Hindon 2016). A study in Cambodia with most-at-risk young people 10-25 years found that males with higher levels of risky sexual behaviour were significantly more likely to live in an urban area, have completed less than 9 years of formal education, and to be not currently living with their parents. Whereas, females with higher levels of risky sexual behaviour were significantly less likely to have completed less than 9 years of formal education and to have both parents alive. Both males and females with higher levels of risky sexual behaviour were significantly more likely to be aged 20-24 years, not attending school, employed, heavy alcohol drinkers, taking illicit drug, and to have been tested for HIV (Yi et al 2014).

Many young people with a STI or symptoms of STIs, especially unmarried individuals, either delay or do not seek care because of social and cultural norms that prohibit premarital sex, fear of disclosure and lack of confidentiality, laws that require parental consent, limited access to youth friendly health services and financial barriers. Instead, young people turn to

private clinics, pharmacies, self-treatment and private providers which contribute to poor health outcomes (Kabir et al 2014; Sihavong et al 2011). A study in two rural provinces in Cambodia, found that only 6.7 % (n=300) of 15-24 years old young people reported having travelled to a local health center, hospital or clinic to seek healthcare for a reproductive health problem. In Cambodia in general, and in rural areas in particular, there is limited information, education, communication about STIs and life skills, especially for rural young people, which results in many young people having an undiagnosed STI and delaying or not seeking diagnosis and treatment (Lopez, Mukaire & Mataya 2015).

1.10 CONDOM USE

There are many studies in the Asia Pacific region that suggest that consistent condom use among young people is low, and at sexual debut it is consistently low, such as in China (Guo et al 2014). Condom use at sexual debut is connected to the likelihood of subsequent condom use throughout adolescence and early adulthood. The main reason why young people do not use a condom at sexual debut is because of their insufficient knowledge about self-protection and a failure to plan against unsafe sex. Their lack of knowledge, faulty perceptions of their 'invulnerability' to risk, and limited regard for the consequences of unsafe sex makes them a high-risk group for unintended pregnancies and STIs (Juarez & LeGrand 2005). Knowledge alone does not ensure consistent condom use. Factors influencing young people's condom use include inconvenience of use, interference with sexual pleasure, difficulty purchasing or acquiring condoms, social attitudes towards condoms and their use during premarital sex (Guo et al 2013; Lucea et al 2013; McMillan & Worth 2011; Wong et al, 2013), and condom use implies promiscuity and unfaithfulness in a romantic relationship (Ng & Kamal 2006).

Generally young males have a higher level of knowledge about condom use than their female counterparts which is associated with social and cultural norms and gender roles (Chan et al 2013). The 2014 CDHS (National Institute of Statistics, Directorate General for Health, and ICF International, 2015) found that among 15-19 years old male and female respondents 50.6% and for 20-24 years old 72.8% had used a condom the last time they had sex. Of the 15-24 years old respondents who had used a condom the last time they had sex 85% lived in urban areas and 52.8% lived in rural areas. Among young people who used a condom the last time they had sex approximately 68% had either primary, secondary or higher education.

Rurality was also found to be a determinant of risky sexual behaviour and inconsistent condom use (Lopez, Mukaire & Mataya 2015).

Migration plays a significant role in young people's sexual experiences and their use of condoms. A study in China (Sudhinaraset, Astone & Blum 2011) compared 15-24 years old non-migrants' to migrants' condom use at sexual debut and found that 63.6% of urban non-migrants and 83.1% of rural-to-urban migrants reported not using a condom at sexual debut. The young rural-to-urban migrants were more likely to be in the lowest wealth group, have less education, more likely to live alone or in work dormitories, and had migrated for employment opportunities and were away from their family support network. Rural-to-urban migration may place young people at particular risk of STIs and unplanned pregnancy for several reasons; they adopt risky sexual behaviours in urban areas because they have an increased exposure to the commercial sex industry, drugs and alcohol and different peer networks, are away from their families and they begin sexual activity at a younger age (Li et al 2009). A study in Cambodia with most-at-risk young people 10-24 years found that 37.7% of males and 18.5% of females had sexual intercourse in the past three months of which 69.6% of males and 52.5% of females had participated in commercial sex. Only 43.3% of males and 6.5% of females reported always using condom with unpaid regular sexual partners in the three months prior to the study (Yi et al 2014).

1.11 SEXUAL AND REPRODUCTIVE HEALTH SERVICES FOR YOUNG PEOPLE

Health services play an important role in preventing poor health and supporting young people to make a healthy transition into adulthood. In addition to essential curative care, health services are a crucial source of preventive services for a range of adolescents' SRH health needs, including information, counselling, services and referral. Many young people come into contact with health services for common health complaints, therefore services are an important and opportunistic entry point to reach young people for preventative and curative SRH interventions. Many young people have limited or no contact with health services including for SRH care because of limited knowledge and information about SRH illnesses (PSL 2015; Read 2014), rurality (Lopez, Mukaire & Mataya 2012), migration (Hegde, Hoban & Nevill 2011; Sudhinaraset, Astone & Blum 2012), disability (Gartrell 2016; Gartrell & Hoban 2013, 2014), barriers associated with cost (Speizer, Magnani & Colvin 2003), language barriers (PSL 2015), lack of information about services available and accessible for young people (Lu et al 2011; Zhao et al 2009), attitudes of health providers (Webber &

Spitzer 2010; Yi et al 2014), marginalized and stigmatized adolescents such as intravenous drug users (Jatapai et al 2016); ethnic minority groups (Huang 2015), transgender individuals (Gridley et al 2016) and women who exchange sex for money or gifts (Yi et al 2015).

Tylee et al (2007) consider that there are five different types of health services that can reach youth and adolescents and they include: 1) Centres, hospitals and specialized SRH health services or clinics, often but not always, in tertiary health facilities; 2) community based facilities such as general practitioners, non-government organizations and government health facilities that provide SRH services and preventative information, education and communication programs; 3) school and college based SRH education often integrated in health services and programs; 4) pharmacies and shops that sell products such as condoms and modern contractive methods with no curative or preventative health services attached; and 5) outreach services in the community or at point of contact where young people congregate, such as that provision of SRH information, referral and often products such as condoms and modern contraceptive methods to women who work in the entertainment industry, garment factories and in secondary schools and colleges. To ensure that health services are 'youth friendly' WHO (2005) have established a framework and standards for quality services for adolescents (2014b) which build on reviews of evidence and experiences of frontline organisations who have developed interventions to remove the barriers to adolescents and youth seeking and receiving SRH care (Tylee et al 2007).

Youth-friendly health services provide quality care that is accessible, appropriate and acceptable to young people. Evidence from LMICs in Asia such as Bangladesh, Mongolia and China demonstrate that when organizations or national governments incorporate these features into health services, which includes health worker training and improvement in young people's health literacy, young people's use of the service increased; this does not include improvements to health facilities (Ross, Dick & Ferguson 2006; Tylee et al 2007). Cambodia is one example, a review of youth-friendly services in Cambodia in 2009 highlighted the importance of including strategies that empowered young people to seek services and increase their confidence when discussing sexual matters and asking questions of health workers (Cambodia Organisation for Research and Development 2009). One example in Cambodia is the Sustainable Action against HIV and AIDS in Communities (SAHACOM) project which was implemented in 2009 using a community-based approach to integrate HIV and SRH services for female entertainment workers. Yi et al (2015) evaluated

the impact of the SAHACOM on sexual and healthcare seeking behaviours among the entertainment workers and found that by the end of their project women were significantly less likely to report having sexual intercourse in exchange for money or gifts and the number of women's sexual partners also decreased significantly in the three months prior to the evaluation. At the end of the project women were significantly less likely to use condoms when having sexual intercourse with clients in exchange for money or gifts and less likely to report STI symptoms in the three months prior to the study. However, women were more likely to seek treatment for the most recent STI symptom and significantly more likely to be currently using a contraceptive method and less likely to report having an induced abortion during the time working as a female entertainment worker.

There are many models of youth friendly health services in countries in the Asia Pacific region that include the characteristics outlined in the 2005 WHO framework (WHO 2014b) such the Yakata Youth- Only Clinic in Aceh Indonesia which is a youth only facilities (Nossal Institute of Global Health 2009), outreach SRH services that provide IEC for under-reached youth in Lao PDR (Taylor 2007), and importantly the integration of youth friendly services into existing health services. For example, in 2010 the Nepal Government implemented the National Adolescent Friendly Health Service and by 2014 over 700 facilities in Nepal had taken on the program with notable success. The evaluation showed a significant take up of services by adolescents and youth, especially females including increased access to SRH care and counselling and improved knowledge of SRH among the staff (Centre for Research on Environment Health and Population Activities 2015). While the strength of global evidence documenting the impact of outreach services on adolescent and youth SRH is undisputable (Dick et al 2006: Speizer, Magnani & Colvin 2003; Tylee et al 2007) the available evidence is limited and less robust for health facility based SRH interventions for adolescents and youth. The range of youth friendly interventions required to address each of the SRH challenges demonstrates that no one "magical bullet" or a uniform "one size fits all" intervention will be adequate (Kalamar, Bayer & Hindin 2016). Instead, reviews show that different approaches are capable of producing different and successful effects. In a number of cases, a combination of approaches is warranted for optimal results as young people's SRH outcomes are determined by a complex web of interrelated determinants that operate at various levels (Viner et al 2012). Evidence shows there is a need to balance the individual-focused interventions with equal emphasis on broader initiatives that address the structural determinants of youth and adolescents' SRH and create supportive environments for policies

and programs that engage in the social context of which adolescents and youth live (Bearinger, Sieving & Sharma 2007).

2. DATA AND METHODS

2.1 DATA

The Demographic and Health Surveys (DHS) project began in 1984 and to date has conducted over 300 surveys across 90 countries (1). DHS core survey questionnaires cover a wider range of population and health topics and participating countries have the opportunity to add modules that collect data on specific health issues. The analyses presented in this report use data from the four Cambodian Demographic and Health Surveys conducted in 2000, 2005, 2010 and 2014.

The 2000 CDHS was the first nationally representative survey of population and health issues conducted in Cambodia and the same methodology used to select the sample for that survey has been repeated in the three subsequent surveys. Details of the survey methodology are provided in each of the survey specific reports (2-5) but briefly, each of the survey samples were selected to be nationally representative of the target population using stratified sampling with two stages. The entire country was divided into sampling domains which were either single provinces or a small group of provinces. From within these domains, villages were identified and classified as urban or rural and larger villages were divided into enumeration areas (EA) to create segments for selection. At the first stage of sampling the specific segments were selected with probability proportional to village/EA size based on the number households in the area. Within each of the selected segments a listing of all households was compiled and at the second stage of sampling households were selected from the list.

In 2000 only women aged 15 to 49 years were surveyed, however both males and females in the same age range were included in the 2005, 2010 and 2014 surveys. The sampling frame for the 2000 and 2005 surveys was drawn from the 1998 Cambodian General Population census while the sampling frame for the 2010 and 2014 survey was based on the 2008 Cambodia General Population Census (GPC).

As four different surveys and a particular subgroup of the population (aged 15-24 years) were assessed to produce the wide range of indicators assessed in this report, it was necessary to use several different denominators. To ensure that the prevalence estimates Standard inflation factors were applied to produce estimates that are representative of all women and men and the sample sizes for the different denominators for adolescents and young people aged 15-24 years are presented in Table 2.1.

Table 2.1 Sample sizes of youth (age 15-24) for denominators used in report. Cambodia DHS 2000-2014

Sample population	2000*	2005		2010		2014	
	Female	Female	Male	Female	Male	Female	Male
Ever-married	1,567	2,192	517	2,202	504	2,415	368
Currently married	1,447	2,034	475	2,061	454	2,283	335
Had sex last 12 months	1,302	1,865	745	1,948	693	2,103	484
Ever had sex	1,566	2,197	789	2,205	736	2,452	525
Had a birth in past five years	1,048	1,608		1,624		1,654	
All births in five years preceding survey [%]	1,440	2,125		2,017		1,990	
Total	5,600	6,646	2,884	6,889	3,265	5,910	1,760

* In 2000, no male survey was conducted in Cambodia [%] Total number of pregnancies that resulted in at least one birth over the last five years to mothers 15-24 years of age at time of survey

2.2 Method

The analyses in the report are limited to adolescents and youth aged from 15 to 24 years. Descriptive statistics (e.g., frequencies, proportions, and means) are used to describe subjects' demographic characteristics, sexual and reproductive health practices. Results have been calculated separately for rurality, province, education level, and socioeconomic status so that variations in distributions can be examined for these sub-samples.

Cross-tabulations of the weighted data are used to calculate the prevalence of reproductive health indicators for the entire adolescent and youth population, stratified by selected background characteristics including age, place of residence (urban/rural), region or province of residence, education level, socioeconomic status (as measured by wealth quintile) and religion where possible. Where analyses are restricted to a subset of populations, such as the ever married sample, it is indicated in the title of the table or figure.

For selected variables or outcomes Chi squared statistics were calculated from trend (regression) analyses where time was regressed on the outcome of interest to determine if there has been significant change in prevalence over time. Trends over time are presented graphically. All statistical analyses were completed using STATA version 14 (6)

2.3 DEFINITION OF INDICATORS OF SEXUAL AND REPRODUCTIVE HEALTH IN ADOLESCENTS AND YOUTH

The variables and indicators used in this report are defined according to MEASURE DHS standard definitions.

Currently married. Respondents who at the time of interview were married, either in a formal marital union or living with someone as if married (cohabiting).

Ever-married. Respondents who at the time of interview were currently or formerly married (widowed, divorced, or separated and those who had lived with a partner but were not currently living with one), either in a formal marital union or living with someone as if married (cohabiting).

Reported having "ever had sex." Respondents who reported having ever had sexual intercourse, irrespective of their marital/cohabitation status.

Relationship to most recent sexual partner. The relationship to the respondent of the respondent's last sexual partner within the 12 months before the survey.

Condom use during last sex. Whether the respondent used a condom the last time he had sexual intercourse. Denominator: Men who have had sexual intercourse in the last year.

Current use of modern contraception. Respondents who at the time of interview were using any modern contraceptive method to delay or avoid becoming pregnant. Women using any of the following methods are defined as current users of modern methods: female sterilization, male sterilization, pill, intrauterine device (IUD), injectables, implants (such as Norplant), and male condom.

Unmet need for family planning. Includes pregnant women whose pregnancy was unwanted or mistimed, postpartum amenorrheic women whose last birth was unwanted or mistimed, and fecund women who at the time of interview were neither pregnant nor postpartum amenorrheic and who were not using any method of family planning and who reported that they wanted to stop or limit childbearing or to space their next birth, or were undecided about the timing of the next birth or whether to have another child.

Adolescent fertility rate. Computed as the age-specific fertility rate (ASFR) of 15-19 years old. The numerator is calculated by identifying the number of live births that occurred in the previous three-year period to mothers age 15-19. The denominator represents the number of woman-years lived by the survey respondents in ages 15-19 during those years. The resulting proportion is multiplied by 1,000 to measure number of births per 1,000 person-years.

Adolescent and youth childbearing. Respondents age 15-24 who at the time of interview were pregnant or who had given birth at least once.

Antenatal care. The number of ANC visits during the pregnancy with the most recent birth. This statistic is calculated for women age 15-24 who had a live birth in the five years preceding the survey. Number of ANC visits is classified into three categories – None, for women who had no ANC, one to three visits or four or more ANC visits. Four visits is the minimum number recommended by the MoHP.

ANC support Among female adolescents and youth aged 15-24 who have had a birth in the last five years, the percent who received antenatal care during their last pregnancy from a health professional (i.e. doctor, midwife, nurse) another person (i.e. birth attendant, village health volunteer, other person) or no one.

Delivery support Among female adolescents and youth aged 15-24 who have had a birth in the last five years, the percent whose last child was delivered by a health professional (i.e. doctor, midwife, nurse) another person (i.e. birth attendant, village health volunteer, other person) or no one

Abortion support Among female adolescents and youth aged 15-24 who have had an abortion in the last five years, the percent with a health professional (i.e. doctor, midwife, nurse) another person (i.e. birth attendant, village health volunteer, other person) or no one in attendance at the time of the abortion

Comprehensive knowledge of HIV and AIDS. Being able to correctly answer five questions about HIV risk, namely that a healthy looking person can have HIV infection, that consistent use of condoms during sexual intercourse and having just one uninfected faithful partner can reduce the chances of getting HIV, and rejecting the two most common local misconceptions about transmission and prevention of HIV and AIDS - that HIV can be transmitted by mosquito bites and that a person can become infected by sharing food with someone who has HIV.

Sexually transmitted infection (STI). Respondents who had ever had sex and who reported having any STIs or having specific STI symptoms (genital ulcer or discharge) in the 12 months preceding the survey.

3. RESULTS

3.1 CHARACTERISTICS OF THE FEMALE AND MALE POPULATION AGED 15 TO 24 YEARS

Table 3.1 and 3.2 show the basic demographic characteristics of the female and male population of young people in Cambodia from 2000, 2005, 2010 and 2014. Population estimates are presented for all women and men for 2005, 2010 and 2014. Males were not surveyed in the CDHS in 2000 so only data for the young women are available in that year.

Tables 3.1 shows that of all women aged 15-24 years approximately 80% live in rural areas. Among the ever married female population 15-24 years approximately 84% are more likely to live in rural areas, which indicates that rural women marry earlier compared to their urban counterparts. Among all women aged 15-24 years there has been a decrease in the proportion of women who have no education; in 2000 21.8% of women 15-24 years had no education and over the subsequent fifteen years this dropped to 4.1% in 2014. Among all women with primary education there were 54.9% in 2000 and this percentage decreased to 33.1% in 2014. Secondary education has increased from 2000 to 2014 from 22.7% in 2000 to 55.6% in 2014. The percent of women completing higher education has increased from 0.6% in 2000 to 7.2% in 2014.

Similar to the female population, between 2005 and 2014, approximately 80% of all men aged 15-24 years lived in rural areas. Among ever married men 15-24 years, the percent living in rural areas was 86.1% in 2005 and 91.8% in 2014. For males aged 15-24 years there has been a decrease in those with no education from 4.9% in 2005 to 3.3% in 2014. Over the same period those with only primary education it has dropped from 45.8% to 32.5%. Conversely, males with a secondary education has increased from 46.3% to 56% and those completing higher education has gone from 3% to 8.2% in 2005 and 2014, respectively.

There has been a significant increase in education levels among all 15-24 years old Cambodians. The majority of the population are Buddhist (approximately 95%) and this has remained consistent among males between 2005 and 2014 and females between 2000 and 2014.

Table 3.1: Characteristics of female adolescents and youth aged 15-24 years

Percent distribution of female adolescents and youth aged 15-24 years by background characteristics and year of survey, Cambodia DHS 2000-2014

	2000				2005				2010				2014			
	Ever married		All Women		Ever married		All Women		Ever married		All Women		Ever married		All Women	
	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N
Age																
15-17	8.6	134	40.4	2263	4.3	94	34.6	2299	4.8	106	34.6	2381	4.8	116	30	1774
18-19	21.2	333	24.2	1355	13.5	295	19.6	1302	13.6	300	19.6	1353	15	363	18.9	1119
20-24	70.2	1100	35.4	1982	82.2	1802	45.8	3045	81.6	1796	45.8	3155	80.2	1936	51.1	3017
Place of Residence																
Urban	15.7	246	19.5	1093	16.4	359	19.8	1318	16.1	354	23.1	1591	12.5	302	19.8	1171
Rural	84.3	1321	80.5	4507	83.6	1833	80.2	5328	83.9	1848	76.9	5298	87.5	2113	80.2	4739
Region																
Phnom Penh	7.9	123	12.5	703	10.6	233	13.2	877	7.8	173	12.9	892	8.0	194	12.6	744
Plain region	44.0	690	40.4	2260	37.5	822	37.8	2511	38.7	852	35.0	2411	34.7	838	32.3	1907
Great lake region	27.9	437	29.9	1675	30.4	666	30.8	2047	30.5	670	31.0	2133	30.0	725	31.2	1846
Coastal region	7.7	120	7.6	424	8.00	174	7.4	492	8.00	176	7.3	502	6.9	166	6.7	398
Plateau/Mountain	12.5	197	9.6	538	13.5	297	10.8	719	15.0	331	13.8	951	20.4	492	17.2	1015
Education																
No education	28.5	447	21.8	1221	19.7	433	11.6	770	11.1	244	6.1	420	6.9	166	4.1	243
Primary	53	831	54.9	3075	58.4	1279	52.3	3480	50.1	1103	37.9	2608	44.2	1069	33.1	1955
Secondary	18.2	285	22.7	1269	20.8	455	34.2	2270	37.3	821	51.0	3513	46.3	1118	55.6	3287
Higher	0.3	4	0.6	35	1.1	25	1.9	126	1.5	34	5.0	348	2.6	62	7.2	425
Socio-economic status																
Poorest	n/a	n/a	n/a	n/a	20	438	15.6	1036	22.9	504	16	1101	20.1	486	16.2	956
Poorer	n/a	n/a	n/a	n/a	20.2	442	17.2	1143	19.8	436	17	1172	20.0	483	17.9	1057
Middle	n/a	n/a	n/a	n/a	19.3	424	19	1261	20.3	447	19.2	1321	21.0	508	19.3	1139
Richer	n/a	n/a	n/a	n/a	19.1	419	20.1	1335	20.2	446	22.1	1526	20.2	487	21.3	1262
Richest	n/a	n/a	n/a	n/a	21.4	469	28.1	1871	16.8	369	25.7	1769	18.7	451	25.3	1496
Religion																
Buddhist	94.7	1484	95.4	5342	95.8	2100	96.5	6415	96.3	2121	97.0	6685	94.6	2285	95.5	5644
Moslem	3.3	52	3.1	177	2.5	55	2.1	136	1.7	37	1.5	104	2.7	66	2.2	132
Christian	0.1	2	0.3	16	0.2	4	0.6	38	0.6	12	0.6	40	0.7	16	1.0	61
Other	1.9	29	1.2	65	1.5	33	0.8	57	1.4	32	0.9	60	2.0	48	1.3	73
Total		1567		5600		2192		6646		2202		6889		2415		5910

Table 3.2: Characteristics of male adolescents and youth aged 15-24 years

Percent distribution of male adolescents and youth aged 15-24 years by background characteristics and year of survey, Cambodia DHS 2005-2014

	2005				2010				2014			
	Ever married		All Men		Ever married		All Men		Ever married		All Men	
	%	N	%	N	%	N	%	N	%	N	%	N
Age												
15-17	0.6	3	38.3	1105	1.4	7	35.8	1169	1.9	7	33	581
18-19	6.0	31	19.3	557	6.2	31	21.3	694	6.1	22	19.6	345
20-24	93.4	483	42.4	1222	92.4	466	42.9	1402	92	339	47.4	834
Place of Residence												
Urban	13.9	72	17.6	509	14.4	73	21.9	715	8.2	30	18.4	324
Rural	86.1	445	82.4	2375	85.6	431	78.1	2550	91.8	338	81.6	1436
Region												
Phnom Penh	9.4	48	12.1	350	9.1	46	12.3	400	4.5	17	12.3	216
Plain region	38.4	198	40.1	1158	43.2	218	37	1209	32.4	119	32.3	568
Great lake region	32.2	167	29.9	861	25.7	130	30.1	983	32	118	31.6	556
Coastal region	7.8	40	6.9	198	6.8	34	6.9	225	8	29	6.4	114
Plateau/Mountain	12.3	64	11	317	15.2	76	13.7	448	23.1	85	17.4	306
Education												
No education	12.8	66	4.9	141	8.7	44	3.2	104	6.2	23	3.3	57
Primary	54.4	281	45.8	1322	49.1	247	34.2	1115	42.6	156	32.5	572
Secondary	29.9	155	46.3	1335	39.0	197	56.0	1829	48.6	179	56.0	987
Higher	2.9	15	3.0	86	3.2	16	6.6	217	2.6	10	8.2	144
Socio-economic status												
Poorest	20.7	107	15.3	441	24.8	125	16.4	537	24.0	89	18.3	322
Poorer	21.3	110	17	489	23.6	119	17.8	581	19.0	70	17.3	304
Middle	21.3	110	20.4	590	20.9	106	20.3	663	21.8	80	20.1	354
Richer	17.8	92	21.8	630	14.5	73	21.6	704	23.5	86	21.8	384
Richest	18.9	98	25.5	734	16.2	81	23.9	780	11.7	43	22.5	396
Religion												
Buddhist	95.4	493	96.4	2781	95.7	482	97	3168	94.3	347	94.0	1655
Moslem	2.1	11	1.6	47	1.2	6	1.3	42	2.6	10	3	53
Christian	0.7	4	1.2	33	1.5	8	0.8	26	0.9	3	1.5	26
Other	1.8	9	0.8	23	1.6	8	0.9	29	2.2	8	1.5	26
Total		517		2,884		504		3,265		368		1,760

3.2 MARRIAGE AND SEXUAL BEHAVIOUR

3.2.1 Marital Status

Table 3.3 shows the marital status of young men and women for each of the four surveys. Amongst 15-24 years old the currently married rate has increased; for women it was 25.8% in 2000 and 38.7% in 2014. For men, it has gone from 16.5% in 2005 to 19.0% in 2014. For young women aged 15-17 years the proportion currently married has remained consistent at around 4-6% across the four surveys. In those aged 18-19 years just over one in five were currently married in 2000 and 2010 but this proportion increased to almost a third (30.6%) in 2014. Similarly, in 20-24 years old women the percent who were currently married increased from 50.9% in 2000 to 60.8% in 2014. Among 15-24 years old females, 2% have been formerly married. There was a slight increase in the percent of currently married males across the four surveys, albeit fairly stable from 2005 to 2014; it was 16.5% in 2005 and 19.0% in 2014. As for females, just under 2% of males aged 15-24 years had been formerly married.

Table 3.3 Marital status

Percent distribution of female and male adolescents and youth aged 15-24 by current marital status, according to age an survey year, Cambodia DHS 2000-2014

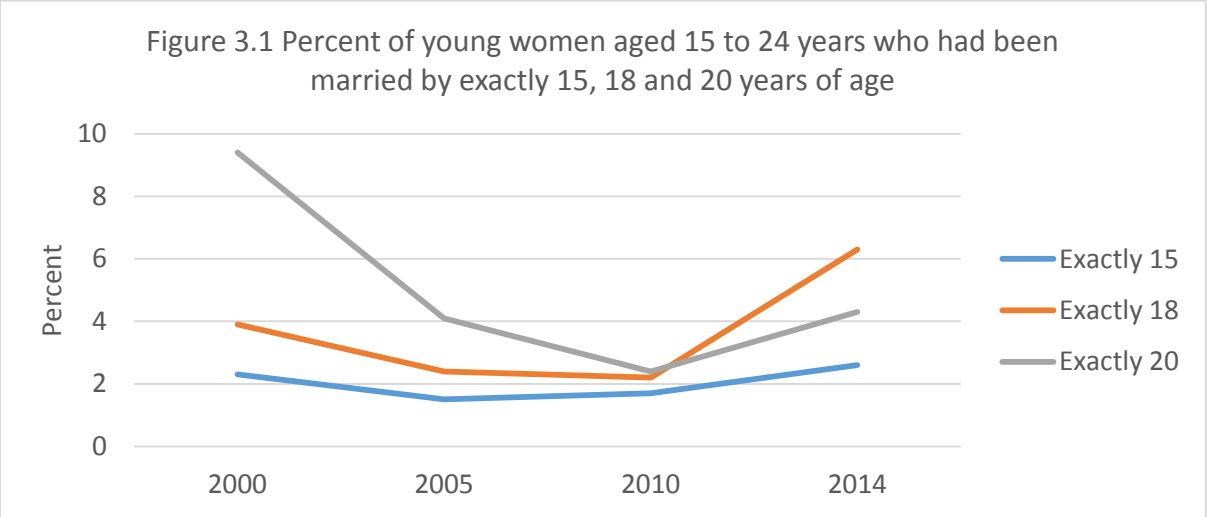
	2000				2005				2010				2014			
Marital status	15-17	18-19	20-24	15-24	15-17	18-19	20-24	15-24	15-17	18-19	20-24	15-24	15-17	18-19	20-24	15-24
								WOMEN								
Never married	94.1	75.4	44.5	72.0	95.9	77.3	40.8	67.0	95.5	77.8	43.1	68.0	93.5	67.6	35.8	59.1
Currently married	5.8	22.6	50.9	25.8	4.0	20.8	54.9	30.6	4.1	21.0	53.2	29.9	6.1	30.6	60.8	38.7
Formerly married	0.1	2.0	4.6	2.2	0.1	1.9	4.3	2.4	0.4	1.2	3.7	2.1	0.4	1.8	3.4	2.2
								MEN								
Never married					99.7	94.4	60.5	82.1	99.4	95.5	66.8	84.6	98.8	93.5	59.4	79.1
Currently married					0.3	4.2	36.7	16.5	0.6	3.4	30.2	13.9	1.1	6.2	36.9	19.0
Formerly married					0.0	1.4	2.8	1.4	0.0	1.1	3.0	1.5	0.1	0.4	3.7	1.9

Table 3.4 shows the percent of adolescents and young people who were married by the time they turned exactly 15, 18 and 20 years of age. In 2000, 9.3% of the young women aged 20-24 years had been married by the time they had turned 15 years of age. This percent had almost halved to 5.0% by 2014. For young women currently aged 15-17 years around 2% had been married by the time they were 15 years in each of the surveys. Approximately half of all young women aged 20-24 years were married by the time they were 20 years of age across all survey years from 2000-2014. Figure 3.1 shows the percent of young women married by exact age graphically. Among males less than 1% were married by aged 15 years, regardless of current age or year of survey. In 2005 approximately 1 in 4 young men aged 20-24 had been married by age 20 years and this is similar to that seen in 2014 (24.0%).

Table 3.4 Marital status by exact age

Percent of female and male adolescents and youth aged 15-24 who were married by exact ages, Cambodia DHS 2000-2014

	2000			2005			2010			2014		
Current age	15	18	20	15	18	20	15	18	20	15	18	20
						WOMEN						
15-17	2.2	–	–	2.0	–	–	2.2	–	–	2.6	–	–
18-19	3.8	21.9	–	3.6	21.0	–	3.5	20.3	–	6.2	29.7	–
20-24	9.3	33.4	49.1	7.0	32.6	49.7	4.7	27.7	45.9	5.0	29.4	50.8
15-24	5.1	–	–	4.6	–	–	3.6	–	–	4.5	–	–
						MEN						
15-17				0.2	–	–	0.2	–	–	0.0	–	–
18-19				0.1	5.0	–	0.3	4.3	–	0.0	5.3	–
20-24				0.6	11.8	25.7	0.8	6.8	17.9	0.1	9.7	24.0
15-24				0.3	–	–	0.5	–	–	0.0	–	–



3.2.2 Sexual intercourse by marital status

The percent of young males and females aged 15-24 years who have had sexual intercourse according to marital status is presented in Table 3.5. As age increases so does reporting of sexual activity for both males and females. However, for females who have never been married less than 1% report having had sex between 2000 and 2010 and 1% report having sex in 2014. Sexual activity among unmarried young women is probably a gross underestimation of the true percentage of sexual activity among this age group. Among unmarried males in 2005 only 1.8% of 15-17 years reported that they had had sex, this increased for 9.6% among 18-19 years old males and 27.2% among males 20-24 years. Similar trends were seen across the age groups in 2010 and 2014.

3.2.3 Age at first sexual intercourse

Table 3.6 shows the percent of adolescents and young people who had experienced their sexual debut by the time they turned exactly 15, 18 and 20 years of age. For young women currently aged 15-17 years, approximately 2% had had sex by the time they were 15 in all four surveys. In 2000, 2.3% of 15-17 years old females had had sex by time they were 15 years old and in the same group in 2014 it was 2.6%. Amongst those who were 18-19 in

2000, 3.9% had had sex by the time they were 15 years old and this had increased to 6.3% in the same age group by 2014. In 2000, 9.4% of young women aged 20-24 years had had sexual intercourse by the time they had turned 15 years of age. This percent had more than halved to 4.3% by 2014. Between 42% and 51% of all women 20-24 years had had sex by the time they were 20 years of age across all survey years from 2000-2014.

Women who were 20-24 years of age in 2000 who reported having had sex by the time they had turned 15 years old, indicate that they had begun sexual activity in the first half of the 1990's. This same response in those 18-19 years of age translates to sexual activity in the mid 1990's and for those 15-17 years to sexual activity in the late 1990's. The decline in the percent reporting sexual debut at such a young age is associated with later birth years, so the prevalence of sex in girls under 15 was reducing at the turn of the century. A decade later in 2010, reports of child sex that had occurred between 2000 and 2010, had reduced. However, in 2014 the prevalence of child sex that occurred between 2005 and 2014 was increasing again.

In 2005 around 1% of young men age 15-24 years had had sex by the time they turned 15 years old. This indicates that young men's sexual debut is after 15 years of age. In 2014 less than 36% of young men aged 20-24 years had already had sex by the time they had turned 20 years old. The rates of sex by exact age are higher in females than males indicating that females are having their sexual debut younger than males.

Table 3.5 Sexual activity by marital status

Percent of female and male adolescents and youth aged 15-24 who have ever had sex, by current marital status, Cambodia DHS 2000-2014

	2000				2005				2010				2014			
Marital status	15-17	18-19	20-24	15-24	15-17	18-19	20-24	15-24	15-17	18-19	20-24	15-24	15-17	18-19	20-24	15-24
								WOMEN								
Never married	0.0	0.1	0.6	0.2	0.0	0.1	0.4	0.2	0.1	0.2	0.2	0.2	0.2	1.8	1.9	1.1
Currently married	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.8	99.7	99.9	99.9	100.0	100.0	100.0	100.0
Formerly married	100*	100.0	100.0	100.0	100*	97.5*	100.0	99.6	100*	100*	99.0	99.2	100.0	100.0	99.9	99.9
Total sexually active	5.9	24.7	55.8	28.1	4.2	22.7	59.4	33.1	4.6	22.3	56.9	32.0	6.7	33.7	64.8	41.5
								MEN								
Never married					1.8	9.6	27.2	11.5	1.2	5.8	19.2	8.4	2.3	8.3	23.8	11.3
Currently married					100*	100.0	100.0	100.0	100*	100.0	100.0	100.0	100*	100*	100.0	100.0
Formerly married					-	100*	100.0	100.0	-	100*	100.0	100.0	100*	100*	100.0	100.0
Total sexually active					2.1	14.7	55.9	27.3	1.8	10.1	46.0	22.5	3.5	14.2	54.6	29.8

* Estimate based on less than 25 unweighted cases, - No cases in this category

Table 3.6: First sexual intercourse by exact age

Percent of female and male adolescents and youth aged 15-24 who had sex by exact ages, Cambodia DHS 2000-2014

	2000			2005			2010			2014		
Current age	15	18	20	15	18	20	15	18	20	15	18	20
						WOMEN						
15-17	2.3	–	–	1.5	–	–	1.7	–	–	2.6	–	–
18-19	3.9	21.9	–	2.4	20.2	–	2.2	19.3	–	6.3	29.8	–
20-24	9.4	33.8	49.1	4.1	29.3	47.7	2.4	22.8	42.4	4.3	29.2	51.3
15-24	5.2	–	–	2.9	–	–	2.1	–	–	4.2	–	–
						MEN						
15-17				0.9	–	–	0.0	–	–	0.5	–	–
18-19				0.5	11.7	–	0.3	8.1	–	0.2	10.6	–
20-24				1.2	17.0	39.6	0.6	10.4	28.5	0.7	15.1	35.6
15-24				1.0	–	–	0.4	–	–	0.5	–	–

3.2.4 Age differences between sexual partners

Figure 3.2 shows the mean age of the most recent sexual partner of young women and it can be seen that although age of most recent sexual partner increases with age of the women, the difference between the woman's age and her partners is greater in the younger women. The mean age difference between women and their most recent partner is show in figure 3.3.

Figure 3.2 Mean age of last sexual partner of young women by age group: 2010-2014

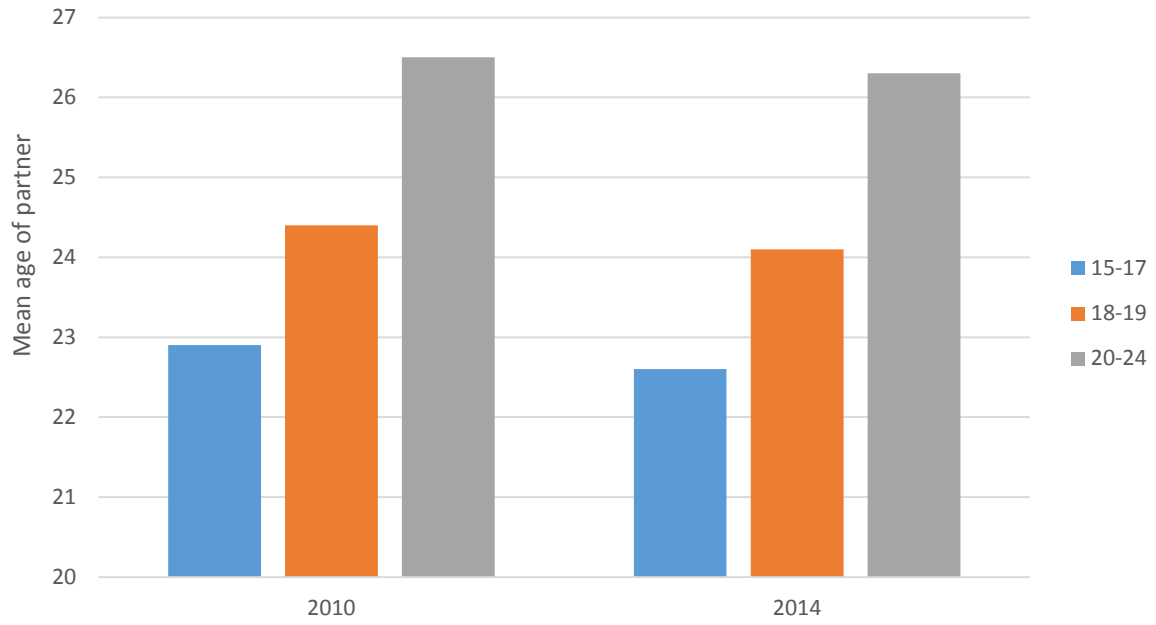
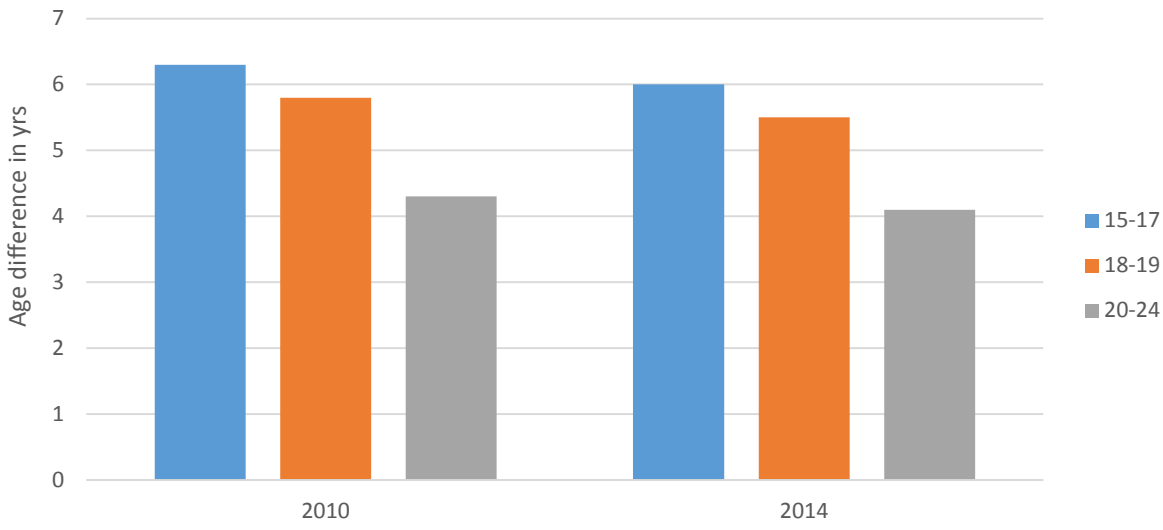


Figure 3.3 Mean age difference between young women and their last sexual partner: 2010-2014



3.2.5 Relationship to most recent sexual partner

Table 3.7 shows the percent distribution of female and male adolescents and youth aged 15-24 years by the relationship they had with their last sexual partner. Nearly all (99%) sexually active females aged 15-24 years report that their most recent sexual partner was either their spouse or cohabitating partner. Very small proportions (less than 1%) report having sex with a boyfriend or fiancé or casual partner. Amongst males 15-24 years approximately two thirds (67%) in 2005 and three quarters (77%) in 2014 report that their most recent sexual partner was their spouse/cohabitating partner. But between 11% in 2005 and 18.5% in 2014 say that it was their girlfriend or finance that was their most recent sexual partner. Between 2005 and 2014 there was a decrease in the proportion of young men aged 15-24 years reporting that their most recent sexual partner was a commercial sex worker. In 2005 17.3% of men reported that their most recent sexual partner was a sex worker whereas in 2014 it was 2.2% of men aged 15-24 years. The latter estimate was based on a very small number of cases (n=10) and therefore caution should be taken when interpreting this estimate.

Table 3.7 Relationship to most recent sexual partner

Relationship	Women				Men		
	2000	2005	2010	2014	2005	2010	2014
spouse/cohabiting partner	99.3	99.5	99.4	98.4	67.6	75.1	76.9
boyfriend/girlfriend/fiance	0.1	0.4	0.4	1.4	11.3	15.4	18.5
casual acquaintance	0	0.1	0.1	0.1	3.3#	3.0#	2.4#
Commercial sex worker*					17.3	6.0	2.2#
Other	0.6	0	0	0.1	0.5#	0.5#	0
Number	1451	2048	2090	2327	697	623	448

estimate based on less than 25 persons

3.2.6 Condom use during most recent sexual intercourse

Table 3.8 presents the percent of males' age 15-24 years who used a condom during their last act of sexual intercourse by background characteristics in the 2005, 2010 and 2014 CDHS. Condom use at last sexual intercourse is consistency higher in urban compared with rural areas. Among 15-24 years old men in 2005 it was 57.7% in urban compared with 23.3% in rural areas and by 2014 it was 57.2% in urban and had dropped to 10.3% in rural areas. Older men aged 20-24 years are less likely to use condoms that 15-19 years compared to their counterparts in both rural and urban area and this trend is across all three surveys (2005, 2010

and 2014). Consistently condom use increases with education. In 2005 among men 15-24 years with no education it was 10% and those with more than secondary level education it was 69.6%. In 2014 among 15-24 years males with no education reported zero condom use whilst those with higher level education it is 47.65%. I summary condom use has dropped significantly from 2005 to 2014 across all education levels.

In 2005 among men 15-24 years in poorest socio-economic quantile 8.3% used a condom at their last sexual encounter while it was 63.3% among the richest quintile. By 2014 it was 4% in the poorest quintile and 44.9% in the richest quintile. There is a significant drop in condom use among the poorest and richest quintiles, however it has remained stable in the middle quintile at 16.4% in 2005 and 16.9% in 2014.

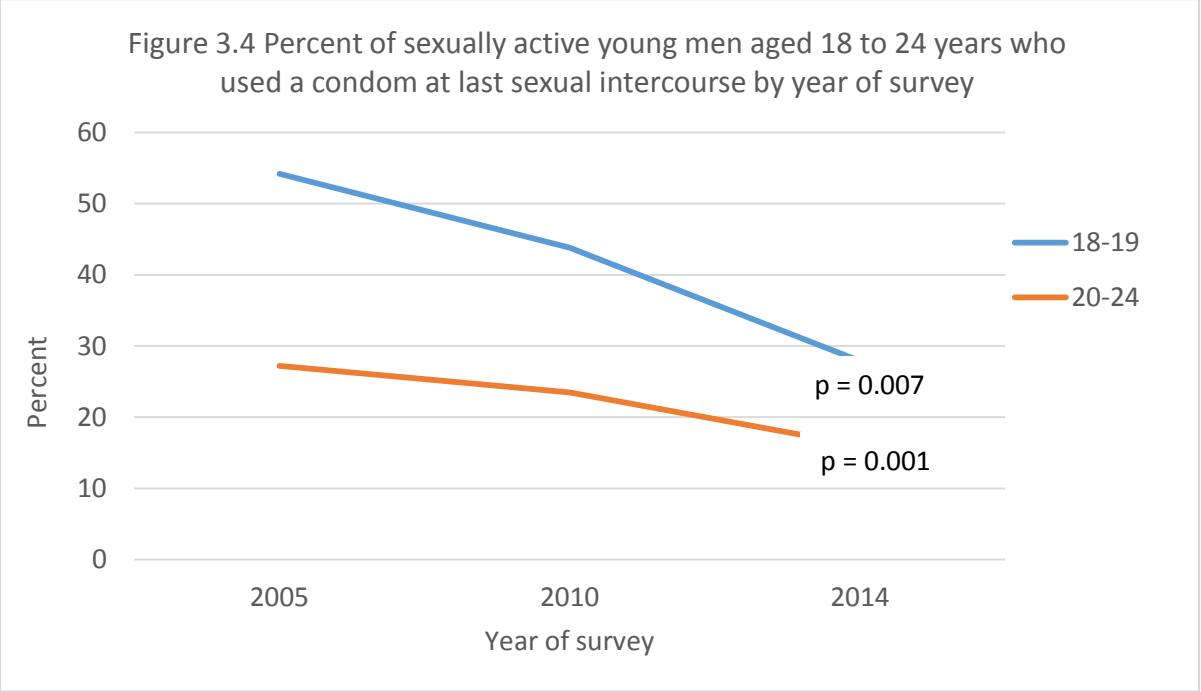
Table 3.8 Condom use during last sex

Among male adolescents and youth aged 15-24 who had sexual intercourse in the last 12-months, the percent who used condoms at last sexual intercourse, according to age and survey year, Cambodia DHS 2000-2014

Background characteristics	2005				2010				2014			
	15-19	20-24	15-24	N	15-19	20-24	15-24	N	15-19	20-24	15-24	N
Place of Residence												
Urban	80.9	53.4	57.7	152	57.9	49.9	50.8	138	91.9*	51.9	57.2	70
Rural	46.6	20.0	23.3	543	47.4	16.1	9.5	485	16.4*	9.4	10.3	378
Education												
No education	*	10.2	10.0	67	*	2.6	5.1	44	*	*	*	24
Primary	40	17.9	20.8	342	37.6	9.9	13.4	270	28.0	10.2	12.8	179
Secondary	75.3	39.1	45.0	252	58.3	34.6	36.9	271	31.1	18.4	20.0	219
Region												
Phnom Penh	*	59.0	63.5	110	*	47.7	51.3	87	*	53.8	58.4	48
Plain region	39.0	21.7	23.6	240	55.7	16.6	21.8	258	*	14.1	13.5	151
Great lake region	65.0	22.2	27.8	215	*	27.3	27.9	165	*	7.3	8.7	123
Coastal region	*	22.5	26.0	51	*	28.0	28.2	30	*	15.5	23.3	35
Plateau/Mountain	*	18.4	19.1	79	*	10.0	11.2	83	*	11.5	12.6	91
Socio-economic status												
Poorest	11.2	7.9	8.3	116	*	10.3	10.1	129	*	2.7	4.0	99
Poorer	38.9	8.1	11.2	124	*	8.2	8.4	122	*	7.9	8.7	75
Middle	27.8	14.5	16.4	120	*	8.1	14.5	113	*	17.1	16.9	98
Richer	62.4	25.6	29.1	119	*	37.2	43.1	116	*	11.1	17.6	100
Richest	90.1	58.0	63.3	216	*	50.0	52.4	143	*	42.7	44.9	76
Religion												
Buddhist	57.8	27.4	31.4	665	50.2	24.2	27.2	601	27.7	16.9	18.4	425
Moslem	0	*	*	13	*	13.5	14.5	6	*	*	7.6	10
Christian	-	*	*	7	-	*	*	8	-	*	*	4
Other	0	*	*	10	-	*	*	8	*	*	*	8
Total	55.6	27.2	30.9	695	49.8	23.5	26.4	623	28.0	16.0	17.6	448

* Based on less than 25 cases - no cases in that cell of the table

Figure 3.4 shows that in sexually active young men there has been a significant decrease in the percent who used a condom at last sexual intercourse. The trend in condom use was similar in very young adolescents 15-17 years of age but due to small numbers they were not included in the graph.



3.2.7 Comprehensive knowledge of HIV and AIDS transmission

As shown in Table 3.9, in 2000 the percentage of women who had a comprehensive knowledge of HIV and AIDS was similar across the 15-17, 18-20 and 20 -24 age groups and for all age groups it was just above 50%. However, by 2014 only 32.8% of 15-17 years old women have a comprehensive knowledge of HIV and AIDS, 35.1% of 18-19 years old women and 43% of women aged 20-24 years. There is a decline in knowledge among all women aged 15-24 years across all survey years but it is most evident among the youngest age group (15-17 years).

For males 15-19 years, 40 to 44% had a comprehensive knowledge of HIV and AIDs and among the 20-24 years men it was slightly higher where approximately half the males had a comprehensive knowledge of HIV and AIDs. There is a significant difference between urban and rural areas. Comprehensive HIV and AIDS knowledge is higher in urban than rural areas in bother males and females across all four surveys (200, 2005, 2010 and 2104).

There is a huge gradient in comprehensive HIV and AIDs knowledge among males and females by education level across all survey years. It is lowest in the no education group and highest among those with a higher education. In 2014 among women with no education 17.9% had a comprehensive knowledge of HIV and AIDS and it was 20.1% for men. In the higher education level group 74.6% women and 76.2% men had a comprehensive knowledge of HIV and AIDS.

Similarly, there is a large gradient across socioeconomic quintiles with the lowest rates seen in the poorest quintile and the highest rates in the richest quintile and this pattern is consistent across all survey years.

Figures 3.5 and 3.6 show graphically that in general males have maintained the same levels of HIV knowledge over the survey years whereas there has been a decline in the percent of females with a comprehensive knowledge about HIV risk in all age groups. In females knowledge was similar in each of the age groups with more than half of all young women having comprehensive knowledge about the risk factors for HIV in 2000 to 2005. However, between 2005 and 2014 there were significant drops in the level of knowledge in females across all age groups. For males in 2005 the percent with comprehensive knowledge varied between 40 to 50% depending of the age group and the level of knowledge remained fairly constant across the years from 2005 to 2014.

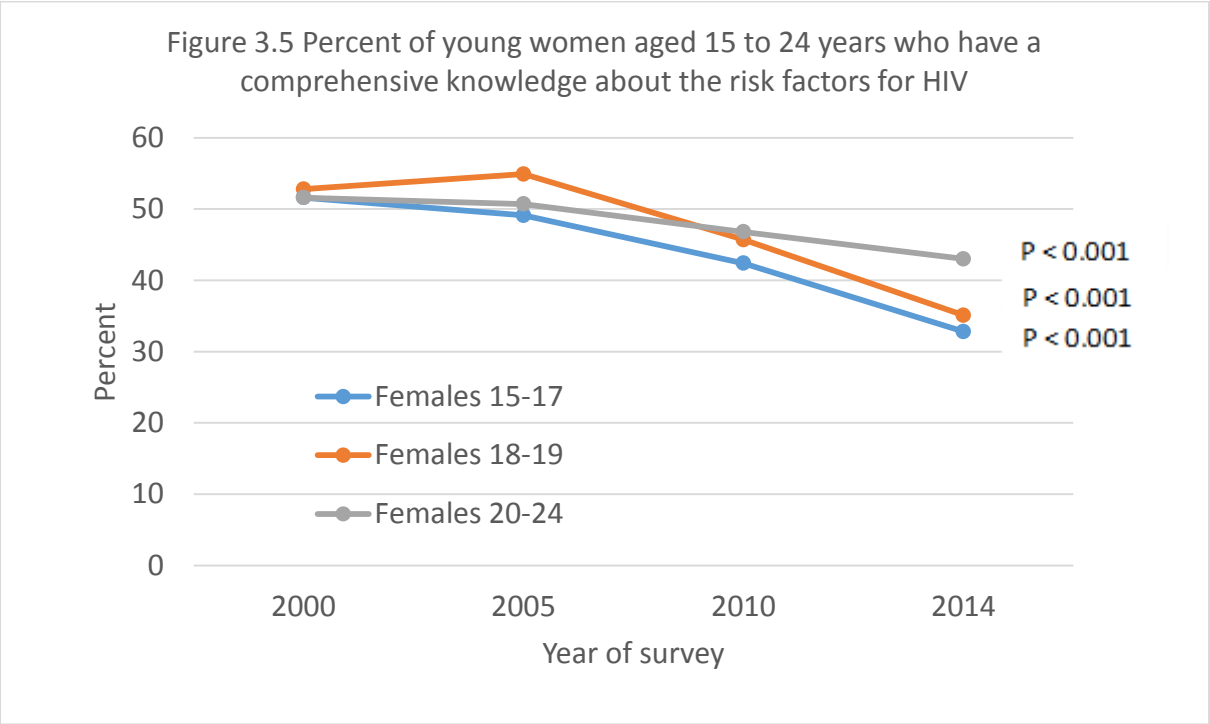


Figure 3.6 Percent of young men aged 15 to 24 years who have a comprehensive knowledge about the risk factors for HIV

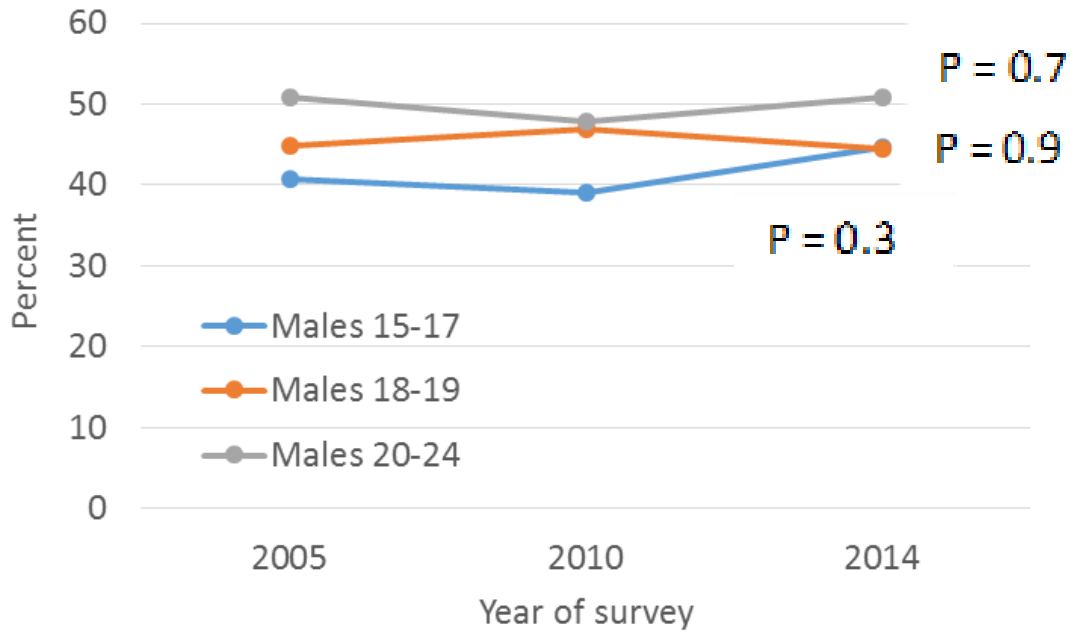


Table 3.9: Knowledge About HIV and AIDS

Percent distribution of female and male adolescents and youth aged 15-24 years who had comprehensive knowledge about HIV and AIDS by background characteristics and year of survey, Cambodia DHS 2000-2014

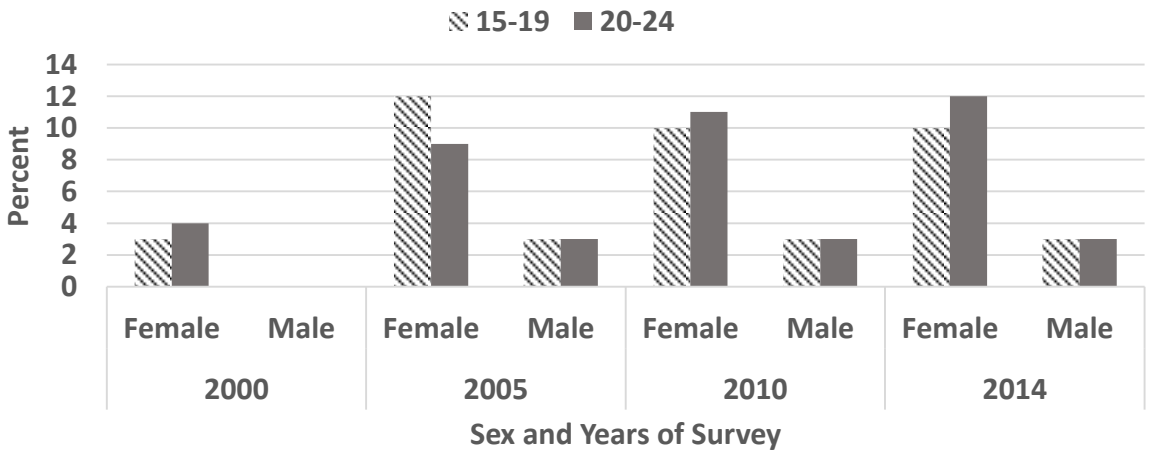
	2000		2005				2010				2014			
	Women		Women		Men		Women		Men		Women		Men	
	%	N	%	N	%	N	%	N	%	N	%	N	%	N
Age														
15-17	51.6	1603	49.1	2255	40.8	1082	42.4	2334	39.1	1133	32.8	1717	44.6	546
18-19	52.8	987	54.9	1281	44.9	548	45.7	1337	46.9	682	35.1	1089	44.4	335
20-24	51.6	1417	50.7	2992	50.9	1210	46.8	3115	47.9	1389	43.0	2973	50.8	820
Place of Residence														
Urban	61.4	938	62.5	1310	58.6	503	54.9	1586	67.1	713	55.3	1164	64.7	320
Rural	49.0	3070	48.1	5218	43.2	2338	42.1	5200	38.1	2491	34.2	4614	43.6	1381
Region														
Phnom Penh	56.4	680	73.00	877	58.2	348	53.8	891	80.3	397	65.5	743	75.3	217
Plain region	57.7	1656	48.50	2462	45.9	1151	47.5	2378	42.1	1193	32.7	1857	40.4	551
Great lake region	47.4	1171	52.10	2023	40.9	836	34.5	2111	30.2	955	38.3	1829	52.0	549
Coastal region	34.3	306	35.90	489	59.9	196	52.2	499	59.5	224	38.0	394	50.4	109
Plateau/Mountain	41.6	195	38.70	677	36.9	310	50.9	907	42.5	435	29.2	956	30.0	275
Education														
No education	41.5	648	19.7	717	21.9	128	16.2	393	9.7	91	17.9	221	20.1	51
Primary	46.2	2177	42.1	3416	30.3	1298	33.4	2545	28.5	1075	25.7	1875	31.0	531
Secondary	68.3	1148	72.0	2269	60.7	1328	54.2	3500	51.0	1823	42.5	3257	53.7	974
Higher	60.7	35	89.9	126	87.9	87	71.5	348	84.3	217	74.6	425	76.2	145
Socio-economic status														
Poorest	n/a	n/a	27.4	987	26.9	426	28.9	1054	31.9	501	27.9	912	31.3	291
Poorer	n/a	n/a	36.5	1107	34.1	479	37.5	1145	37.5	569	29.1	1005	42.2	288
Middle	n/a	n/a	46.6	1235	42.4	580	41.6	1304	39.5	658	28.9	1122	44.8	348
Richer	n/a	n/a	59.9	1329	49.3	625	49.9	1515	42.7	701	42.4	1253	50.6	379
Richest	n/a	n/a	68.5	1870	64.7	732	58.0	1767	63.8	777	55.2	1487	62.9	395
Religion														
Buddhist	52.9	3850	51.3	6325	46.3	2743	45.3	6597	44.8	3112	38.5	5543	47.2	1610
Moslem	21.5	114	37.6	133	29.0	44	39.3	102	52.2	41	39.0	124	56.6	51
Christian	78.4	16	73.9	38	62.6	33	64.5	40	45.0	26	45.4	60	76.7	23
Other	21.6	23	15.2	33	2.9	20	3.2	47	2.9	25	24.1	52	16.3	17
Martial Status														
Never married	53.2	2865	52.6	4373	45.8	2329	46.9	4610	44.8	2711	39.3	3423	48.2	1341
Ever married	48.7	1142	47.7	2155	46.5	512	41.2	2176	43.4	494	37.3	2356	45.2	360
Total	51.9	4008	51.0	6528	45.9	2841	45.1	6786	44.6	3204	38.5	5779	47.6	1701

Note: No males were surveyed in 2000

3.2.8 Had an STI or STI symptoms

The percentage of sexually active young females 15-19 and 20-24 years reporting an STI and/or STI symptoms in the previous 12 months increased by year of survey. In 2000, approximately 3% and 4% of young females aged 15-19 years and 20-24 years, respectively reported an STI and/or symptoms of STIs whereas in 2014 approximately 10% of young females aged 17-19 years and 12% of females 20-24 years reported an STI and/or symptoms of STIs. Among males aged 15-24 years the percentage remained stable with approximately 3% of males stating that they had reported a STI and/or symptoms of STIs in the 12 months prior to the survey in 2005, 2010 and 2014. Men aged 15-24 years were not surveyed in 2000.

Figure 3.6 Percent distribution of sexually active adolescent and young people aged 15-24 reporting an STI and/or symptoms of STI in the last 12 months, CDHS 2000-2014

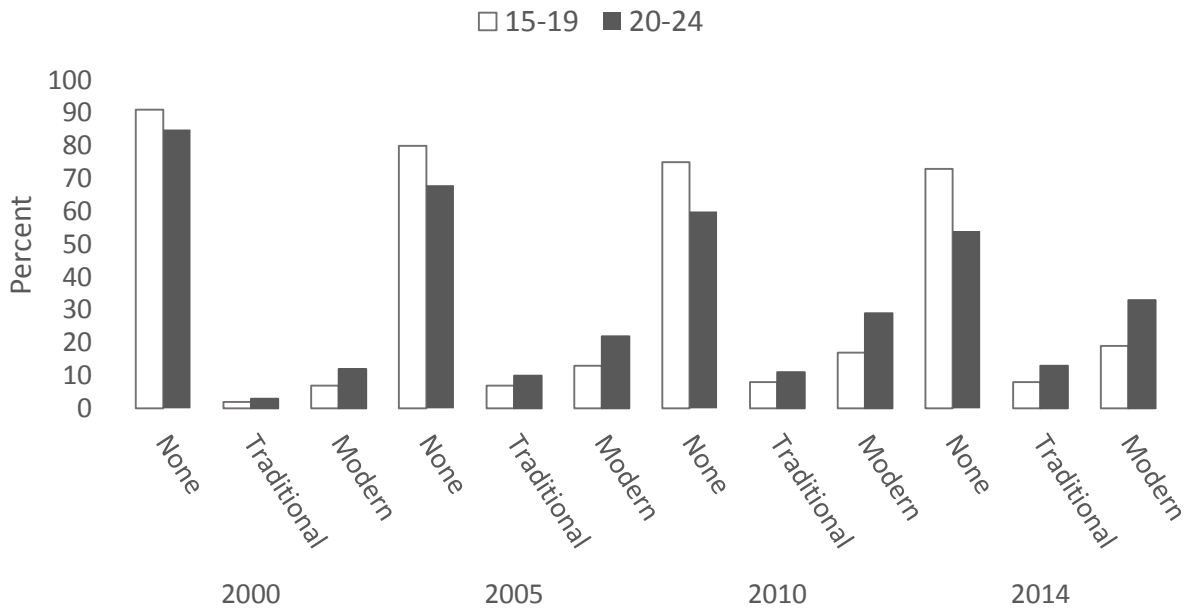


3.4 FAMILY PLANNING AND CONTRACEPTION

3.3.1 Current use of modern contraceptives

Figure 3.7 shows for young women 15-19 years and 20-24 years who have had sex the percent using either no, traditional or modern contraception. Over the fifteen years from 2000 to 2014 there has been a gradual decline in the number of sexually active young women aged 15-19 years and 20-24 years who are not using contraception. However, this is still more common than contraception use. There has been a gradual increase in the reported use of both traditional and modern methods of contraception in both adolescents (15-19 years) and young women (20-24 years). In 2000 12% of young women aged 20 to 24 years were using modern methods of contraception and by 2014 this had risen to 33%. Over the same period, we saw the prevalence of traditional methods rise from 3% to 13% in that same age group.

Figure 3.7 Percent distribution of sexually active adolescent and young females aged 15-24 by method of contraception and survey, CDHS 2000-2014



The type of contraception being used by young women across each of the CDHS surveys is show in detail in Table 3.10. Over time the percent of sexually active young women using some form of contraception has increased. In the earlier part of the century (2000-2005) more women living in urban areas were using contraception compared with their rural counterparts, however, in 2010 and 2014 approximately 40% of women are using some form of contraception regardless of whether they live in an urban area or not. The rates of contraception use remain highest in Phnom Penh when compare with other regions of Cambodia. The use of traditional methods of contraception increase with increasing education and increasing socioeconomic status.

Table 3.10 Contraception methods

Among female adolescents and youth aged 15-24 who have ever had sex, the percent who are using various methods of contraception by background characteristics, Cambodia DHS 2000-2014

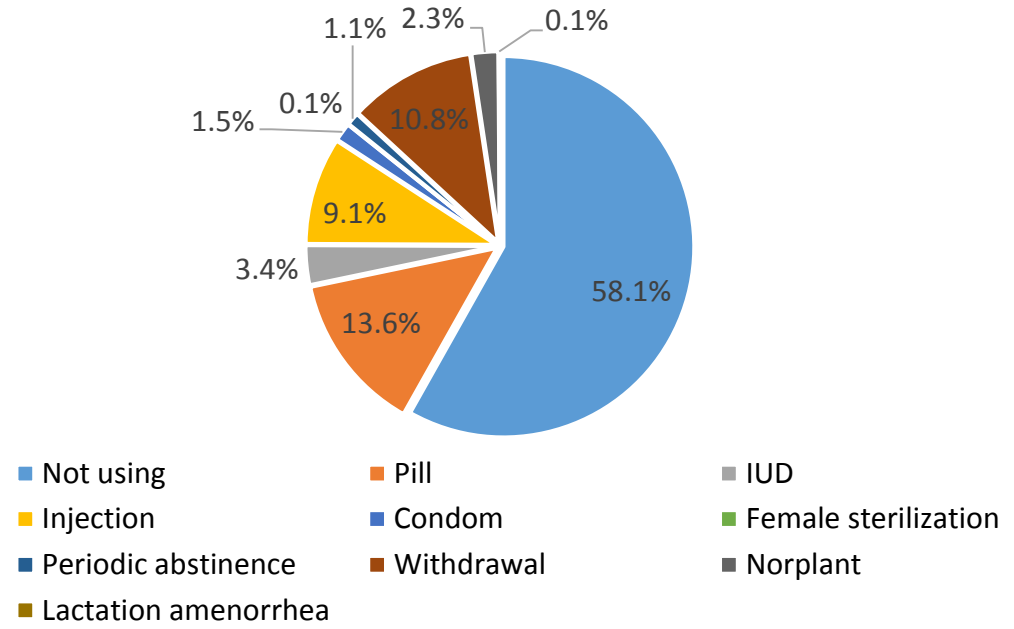
Background characteristics	2000				2005				2010				2014			
	None	Traditional	Modern	N	None	Traditional	Modern	N	None	Traditional	Modern	N	None	Traditional	Modern	N
Age group																
15-17	95.2	0	4.8	134	93.0	3.4	3.6	95	76.9	6.3	16.8	108	89.6	2.9	7.5	119
18-19	89.5	2.5	8.0	333	76.7	7.6	15.7	296	74.0	8.2	17.8	301	68.0	10.0	22.0	377
20-24	85.2	2.9	11.9	1099	67.9	10.4	21.7	1806	59.5	11.1	29.4	1796	54.3	12.7	33.0	1956
Place of Residence																
Urban	80.1	5.4	14.5	249	62.0	14.0	24.0	361	61.0	17.8	21.2	357	54.7	23.3	22.0	324
Rural	88.3	2.0	9.2	1,317	71.8	8.9	19.3	1836	62.6	9.0	28.4	1849	58.6	10.1	31.3	2128
Region																
Phnom Penh	74.8	11.2	14.0	126	56.4	24.5	19.1	235	59.6	23.0	17.4	174	51.1	30.7	18.2	210
Plain region	89.9	2.3	7.8	687	72.6	8.7	18.7	825	60.7	11.8	27.5	852	63.0	9.8	27.2	849
Great lake region	84.9	1.5	13.6	435	70.4	6.8	22.8	665	64.9	6.0	29.1	671	55.2	7.4	37.4	732
Coastal region	84.4	1.0	14.6	121	68.6	10.4	21.0	175	63.4	14.0	22.6	177	60.9	11.4	27.7	167
Plateau/Mountain region	90.6	1.1	8.3	197	74.4	7.1	18.5	297	62.5	7.5	30.0	331	56.0	14.2	29.8	494
Education																
No education	89.2	1.1	9.7	444	78.7	3.5	17.8	432	69.3	2.4	28.3	245	59.3	4.7	36.0	166
Primary	87.9	1.9	10.2	832	68.4	10.2	21.3	1282	62.8	9.2	28.0	1103	58.9	10.3	30.8	1077
Secondary	81.1	6.6	12.3	285	68.0	13.7	18.3	458	60.0	14.1	25.9	822	57.2	13.4	29.4	1142
Higher	*	*	*	5	47.6	21.3	31.1	25	56.2	19.4	24.4	35	59.5	27.9	12.6	67
Socio-economic status																
Poorest	n/a	n/a	n/a	n/a	72.0	6.9	21.1	437	62.8	7.7	29.5	504	58.0	7.0	35.0	486
Poorer	n/a	n/a	n/a	n/a	75.9	5.4	18.7	442	66.5	5.5	28.0	437	57.5	9.8	32.7	485
Middle	n/a	n/a	n/a	n/a	71.4	7.5	21.1	424	61.0	9.7	29.3	448	64.4	7.7	27.9	512
Richer	n/a	n/a	n/a	n/a	72.6	8.4	19.0	419	60.4	15.0	24.6	445	55.9	14.2	29.9	499
Richest	n/a	n/a	n/a	n/a	59.7	19.6	20.7	475	60.8	15.5	23.7	371	54.4	21.0	24.6	470
Religion																
Buddhist	86.7	2.7	10.6	1483	69.7	10.0	20.3	2105	62.2	10.5	27.3	2124	58.0	12.2	29.8	2322
Moslem	91.1	0	8.9	52	73.0	6.0	21.0	55	47.2	17.3	35.5	37	59.3	7.1	33.6	66
Christian	*	*	*	2	*	*	*	4	*	*	*	12	*	*	*	16
Other	93.3	0	6.7	25	92.8	0	7.2	33	82.8	1.1	16.1	32	66.1	2.6	31.3	48
Total	87.0	2.5	10.5	1566	70.1	9.8	20.1	2197	62.4	10.4	27.2	2205	58.1	11.9	30.0	2452

* Based on less than 25 cases

3.3.2 Mix of currently used contraceptive methods

Figure 3.8 shows the percent of young women aged 15-24 years using each contraceptive method. In 2014 the majority (58.1%) of young females aged 15-24 years who have had sex were not using any contraceptive method. Among young women who have had sex the main contraceptive method used is the oral pill (13.6%) followed by the withdrawal method (10.8%) and then the injection (9.1%) and IUD (3.4%). The remaining 5% of women aged 15-24 years who have had sex were using a condom (1.5%), female sterilization (0.1%), periodic abstinence (1.1%), Norplant (2.3%) or lactation amenorrhoea (0.1%). The high percentage of young women aged 15-24 years who have had sex and who are not using any contraceptive method is of concern. Additionally, the traditional withdrawal method is the second most commonly used method among this group of young women.

Figure 3.8 The distribution of contraception methods used by young women aged 15-24 who have had sex: CDHS 2014



3.3.3 Reasons for changing contraceptive method

Table 3.11 shows the reason young women stopped using the last contraception method they discontinued using in the last five years as a percent. The most common reasons for discontinuing their contraception method were wanting to become pregnant, side effects and contraception failure. Of the 90 young women who became pregnant while using a contraception method, almost 67% were using the withdrawal method and just over 19% were on the pill. This indicates the unreliability of the withdrawal method as more than two thirds of the unplanned pregnancies occurred in this group. Almost one in five of the unplanned pregnancies were in young women taking the pill, however, if taken correctly the pill is known

to have a 1% failure rate. Therefore, it appears that incorrect administration of the pill is not uncommon in this age group. Of those who reported side effects as the reason they stopped using the contraception method, over 85% were taking either the pill or contraceptive injection. Amongst those who reported wanting a more reliable contraception 55% came from the group formerly using the withdrawal method.

Table 3.11 Percent of females aged 15-24 who have stopped using a contraception method and the reason they stopped using that method: CDHS survey 2014

	Previous contraception method										
Reason for giving up	Pill	IUD	Injection	Condom	Periodic abstinence	Withdrawal	Norplant	Lactation	Female condom	Chinese pill	N
Became pregnant	19.2	0.9	4.0	4.4	2.3	66.6	0	0	0	2.6	90
Wanted to become pregnant	47.5	3.6	16.1	3.4	2.3	25.6	0.8	0	0	0.7	299
Husband disapproved	0	19.1	0	20.5	0	60.4	0	0	0	0	7
Side effects /health concerns	42.9	4.0	44.5	4.4	0	0	3.3	0	0	0.9	126
Access, availability	11.8	0	88.2	0	0	0	0	0	0	0	5
Wanted more effective method	16.5	0	11.4	5.9	4.1	55.0	0	1.4	4.7	0.9	37
Inconvenient to use	54.8	6.3	20.3	7.5	0	11.0	0	0	0	0	62
Infrequent sex, husband away	38.3	0	22.4	14	0	16.7	8.6	0	0	0	14
Cost	0	0	0	0	0	0	0	0	0	0	0
Fatalistic	0	0	0	0	0	0	0	0	0	0	0
Difficult pregnancy, menopause	0	0	66.1	0	0	0	0	33.9	0	0	2
Marital dissolution	47.3	0	1.1	27.8	0	20.8	3.1	0	0	0	7
Other	26.8	1.3	29.6	18.4	0	10.8	8.4	4.8	0	0	21
Don't know	100	0	0	0	0	0	0	0	0	0	1
Total	40.1	3.3	20.8	5.3	1.5	25.9	1.5	0.3	0.3	0.9	671

3.3.4 Unmet need for family planning

The percent of young women who reported an unmet need for either limiting or spacing their children are shown in Table 3.12. Ever married women aged 15-24 years are much more likely to report an unmet need for family planning compared with never married women of the same age. In 2000 the proportion of ever married women aged 15-24 years who reported an unmet need for family planning was close to 30% across all age ranges (15-17, 18-19 and 20-24 years) but this has dropped to 5.6% in those aged 15-17, 1.8% in those aged 18-19 years and 2.3% in those aged 20-24 years by 2014. The decreases in unmet need over the fifteen year period from 2000 to 2014 have occurred in both urban and rural areas. In 2005 and 2010 those young women with no education were more likely to report an unmet need than those with higher levels of education however by 2014 very few women reported an unmet need regardless of their education level. Similarly, in 2005 and 2010 there was an inverse relationship between the proportion of young women with an unmet need and socioeconomic quintile. Those in the poorest quintiles were more likely to have an unmet need when compared to those in the richest quintile. In 2010, 17.1% of the ever married women in the poorest quintile had an unmet need while amongst those in the richest quartile this was 11.9%. Again, this socioeconomic gradient has virtually disappeared by 2014 with 1-3% of ever married women reporting an unmet need regardless of socioeconomic quintile.

Table 3.12: Characteristics of female adolescents and youth aged 15-24 years with unmet need for family planning

Percent distribution of female adolescents and youth aged 15-24 years with unmet need for family planning by background characteristics and year of survey, Cambodia DHS 2000-2014

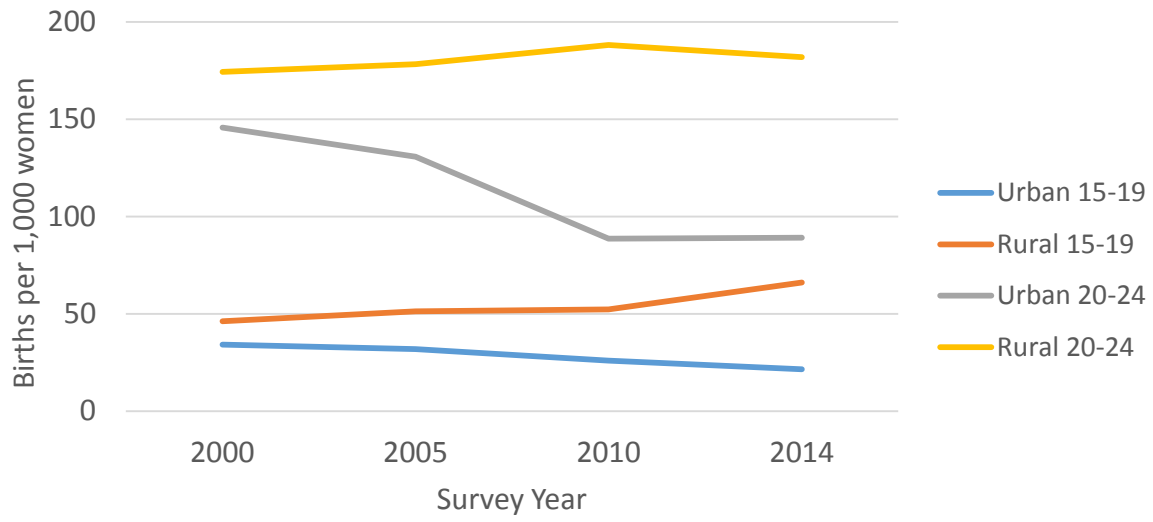
	2000				2005				2010				2014			
	Ever married		All Women		Ever married		All Women		Ever married		All Women		Ever married		All Women	
	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N
Age																
15-17	27.9	134	1.7	2263	36.5	94	1.5	2299	14.3	106	0.6	2381	5.6	116	0.4	1774
18-19	27.5	333	6.8	1355	20.0	295	4.6	1302	14.9	300	3.3	1353	1.8	363	0.6	1119
20-24	28.4	1100	15.7	1982	22.0	1802	13.0	3045	15.3	1796	8.7	3155	2.3	1936	1.4	3017
Place of Residence																
Urban	26.6	246	6.0	1093	18.3	359	5.0	1318	10.1	354	2.3	1591	5.2	302	1.4	1171
Rural	28.4	1321	8.3	4507	23.2	1833	8.0	5328	16.2	1848	5.7	5298	1.9	2113	0.9	4739
Province																
Banteay Mean Chey	29.0	75	9.5	229	24.2	86	8.4	248	16.2	91	5.5	271	3.0	110	1.4	233
Kampong Cham	26.0	230	9.0	662	25.0	302	9.6	788	16.5	286	6.7	703	2.0	306	1.0	628
Kampong Chhnang	41.0	51	10.1	208	33.7	65	10.7	206	16.6	75	4.7	269	0.9	80	0.3	239
Kampong Speu	17.5	90	7.1	224	16.1	132	6.4	331	12.9	138	4.6	391	0.8	183	0.4	413
Kampong Thom	33.9	76	8.8	294	18.4	102	6.4	295	14.0	97	4.1	337	2.9	99	1.0	271
Kandal	21.3	111	4.5	531	17.3	173	4.7	635	7.4	193	2.0	721	4.3	168	1.7	426
Kratie	32.3	32	7.4	141	33.7	40	11.6	115	22.7	46	7.1	149	2.6	91	1.3	175
Phnom Penh	25.2	123	4.4	703	13.1	233	3.5	877	9.3	173	1.8	892	5.3	194	1.4	744
Prey Veng	30.7	157	11.0	439	22.5	164	7.7	475	16.6	155	7.2	360	1.0	157	0.5	310
Pursat	44.3	38	11.9	140	21.7	69	6.7	223	9.9	66	3.2	206	0.5	92	0.2	227
Siem Reap	38.3	98	9.6	391	23.1	179	8.1	512	19.1	159	6.3	491	2.8	166	1.2	391
Svay Rieng	18.9	68	6.0	214	21.5	75	7.0	231	13.4	91	5.0	244	1.3	82	0.6	176
Takeo	30.8	124	9.3	414	27.6	109	7.9	381	23.8	127	7.9	382	0.0	125	0.0	367
Otdar Mean Chey	39	18	17.1	40	17.8	29	7.1	73	17.0	35	5.1	118	2.3	43	1.0	99
Battambang & Krong Pailin	18.4	99	4.4	413	25.7	164	7.5	564	14.2	182	4.6	560	3.2	178	1.2	486
Kampot & Krong Kep	29.6	77	7.6	300	29.9	117	10.2	344	15.6	121	5.9	321	2.7	111	1.3	236
Krong Preah Sihanouk & Kaoh Krong	32.6	43	11.3	124	13.1	57	5.3	148	16.6	55	5.1	181	2.4	55	0.8	161
Preah Vihear & Steung Treng	24.3	27	8.7	75	31.0	50	14.0	115	21.2	64	7.4	184	3.3	88	1.6	183
Mondol Kiri & Rattanak kiri	32.4	30	16.8	58	29.1	46	15.8	85	21.3	48	9.4	109	1.0	87	0.6	145
Education																
No education	29.1	447	10.7	1221	25.4	433	14.3	770	13.4	244	7.8	420	1.5	166	1.0	243
Primary	28.6	831	7.7	3075	23.4	1279	8.6	3480	16.4	1103	7.0	2608	3.1	1069	1.7	1955
Secondary	25.7	285	5.8	1269	17.3	455	3.5	2270	14.6	821	3.4	3513	1.9	1118	0.6	3287
Higher	*	4	0	35	7.3	25	1.4	126	5.3	34	0.5	348	0	62	0	425
Socio-economic status																
Poorest	n/a	n/a	n/a	n/a	27.7	438	11.7	1036	17.1	504	7.8	1101	3	486	1.6	956
Poorer	n/a	n/a	n/a	n/a	24.3	442	9.4	1143	16.9	436	6.3	1172	1.1	483	0.5	1057
Middle	n/a	n/a	n/a	n/a	23.9	424	8	1261	17.2	447	5.8	1321	2.6	508	1.2	1139
Richer	n/a	n/a	n/a	n/a	20.2	419	6.3	1335	12.1	446	3.6	1526	1.7	487	0.7	1262
Richest	n/a	n/a	n/a	n/a	16.1	469	4.1	1871	11.9	369	2.5	1769	3.3	451	1	1496
Religion																
Buddhist	28.3	1484	7.9	5342	22.3	2100	7.3	6415	15.3	2121	4.9	6685	2.4	2285	1	5644
Moslem	27.7	52	8.1	177	15.3	55	6.1	136	7.6	37	2.7	104	0	66	0	132
Christian	25.2	2	3.6	16	34.3	4	3.7	38	0.5	12	0.1	40	1.8	16	0.5	61
Other	24.3	29	10.1	65	36.1	33	21.6	57	26.7	32	14.2	60	1.3	48	0.9	73
Total		1,567		5,600		2,192		6,646		2,202		6,889		2,415		5,910

3.4 PREGNANCY AND MOTHERHOOD IN ADOLESCENTS AND YOUTH

3.4.1 Adolescent fertility

Early pregnancy and motherhood is a major social and health issue in Cambodia. Adolescent pregnancy is associated with a number of adverse health, social and economic consequences at the individual, community and population level. Although there has been a decline in adolescent fertility rates in the urban areas from 2000 to 2014, adolescent pregnancy is of particular concern in rural Cambodia, where the rate of adolescent fertility is rising (see Figure 3.9).

Figure 3.9 Age-specific fertility rates (ASFR) in urban and rural young women by age group: Cambodia 2000 - 2014



3.4.2 Childbearing among adolescents and youth

The characteristics of young women who have begun childbearing by age group and year of survey are shown in Table 3.13. Between 2000 and 2014 there is an increase in percentage of young women 15-24 years who begin childbearing in urban and rural areas with a significantly more women in rural areas beginning childbearing than their urban counterparts. Among 15-24 years old women in urban areas 16.6% of women had begun childbearing in 2000, 21.7% in 2005, 17.4% in 2010 and 19.5% in 2014. In rural areas it was 22.8% in 2000, 30.4% in 2005, 30.8% in 2010 and 38.2% in 2014. Important to note that in 2014 more than one third of all rural women 15-24 years had begun childbearing.

In all four surveys (2000, 2005, 2010 and 2014) Phnom Penh had the lowest and the Plateau/Mountain region had the highest percentage of females aged 15-24 years who had begun childbearing at the time of the survey. The year 2010 was the exception when Phnom Penh (13.9%) had the lowest percentage and the Plain Region (31.4%) had the highest. The

percentage increase in women aged 15-24 years who lived in Phnom Penh who had begun childbearing was from 11.6% in 2000 to 18.0% in 2014. Whereas in the Plateau/Mountain region it was 29.8% in 2000 to 41.1% in 2014. In summary, the percentage of women aged 15-24 years who have commenced childbearing had increased in all geographic regions over the four survey years however the increase is highest in the Plateau/Mountain Region where it has increased by more than 11% from 2000 to 2014.

Among females 15-24 years who had begun childbearing the percentage who had no education increased each survey year, from 28.8% in 2000, 49.4% in 2004, 50.6% in 2010 and 62.2% in 2014. This trend shows that the percentage of women aged 15-24 years who had begun childbearing and had no education more than doubled between 2000 and 2014. Among women who had begun childbearing and had primary education there was an increase in percentage each survey year; 20.4% in 2000, 32.9% in 2005, 38.3% in 2010 and 47.4% in 2014. For women aged 15-24 years with secondary education it was 17.7% in 2000, 16.2% in 2005, 19.2% in 2010 and 28.3% in 2014. Conversely, among females 15-24 years who begun childbearing and who had a higher education level (the numbers are small) it was 13.2% in 2000 and 6.8% in 2014, therefore the percentage of females with higher education at time they commenced childbearing had nearly halved between 2000 and 2014.

Among the poorest quintile of women aged 15-24 years 38.9% in 2005, 42% in 2010 and 46% in 2014 had begun childbearing. Among the richest quintile, it was 20.3% in 2005, 15.9% in 2010 and 22.7% in 2014 who had begun childbearing. For young women aged 15-24 years in the poorest quintile there is a greater likelihood that they will begin childbearing early and this is proportion is increasing over time. This indicates a greater socio-economic divide as the difference between women in the poorest and richest quintile has increased.

There are more Muslim women aged 15-24 years who had begun childbearing in 2005, 2010 and 2014 than their Buddhist counterparts for the same survey years. In 2000, approximately the same percentage of Buddhist (21.5%) and Muslim (22%) females aged 15-24 years had commenced childbearing at the time of the survey. The percentage of females aged 15-24 who have begun childbearing increased from 2000 to 2014 and this was the same trend seen among Buddhist and Muslim women over the four survey years.

3.4.3 Timing of pregnancy

There is strong cultural pressure within Cambodia for young women to be married before having sex and beginning a family. Table 3.14 shows the relationship between time of marriage and time of first birth for adolescent and youth between 2000 and 2014. Among 15-17 years old females between 0% and 0.6% gave birth before their marriage in every year of

the survey. Among 18-19 years old females it is between 0.1% and 2.6% who have a baby before marriage and among women 20-24 years it is between 1.3% and 2.5%. There is no pattern in the four survey years (2000, 2005, 2010, 2014) however it is higher among the 20-24 years old females. Again, there are very few females 15-17 years who have a baby 'near' marriage (within 9 months before marriage) and the percentage ranged from 31.8% in 2000 to 3.3% in 2014. Among females 18-19 years the percentage who had a birth within 9 months of marriage ranged from 8.6% in 2000 to 4.8% in 2014. Among women 20-24 years who had a baby within 9 months of marriage the percentages ranged from 11.3% in 2000, 6.8% in 2010 and 5.8% in 2014. There is slight variation across survey years and socio demographic characteristics. However, the primary finding is that between 5% to 10% of all births among young women aged 15-24 years occurs within 9 months of getting married. This means that these young women were pregnant at the time of union.

Table 3.13 Adolescent childbearing

Among female adolescents and youth aged 15-24, the percent who have begun childbearing by background characteristics, according to age and survey year, Cambodia DHS 2000-2014

Background characteristics	2000					2005					2010					2014				
	15-17	17-19	20-24	15-24	N	15-17	17-19	20-24	15-24	N	15-17	17-19	20-24	15-24	N	15-17	17-19	20-24	15-24	N
Place of Residence																				
Urban	2.4	12.8	39.1	16.6	1093	0.9	13.0	40.9	21.7	1318	2.3	8.0	30.6	17.4	1591	2.6	10.9	30.5	19.5	1171
Rural	2.5	18.3	48.1	22.8	4507	3.0	17.6	56.7	30.4	5328	3.1	20.5	57.4	30.8	5298	4.3	28.2	62.9	38.2	4739
Region																				
Phnom Penh	2.3	6.7	26.3	11.6	703	2.0	8.1	39.2	20.1	877	2.2	4.6	23.8	13.9	892	3.9	8.3	26.8	18.0	744
Plain region	2.5	19.1	49.2	23.6	2260	2.1	14.3	54.4	29.0	2511	2.8	21.2	57.7	31.4	2411	3.4	28.6	64.3	38.1	1907
Great lake region	1.5	17.4	46.8	20.8	1675	2.3	22.2	54.1	29.4	2047	3.0	15.2	51.3	27.5	2133	3.6	21.3	56.2	33.6	1846
Coastal region	2.	19.8	50.2	20.4	424	2.	14.1	61.1	31.0	492	4.6	18.2	59.1	30.5	502	2.6	26.1	58.2	34.9	398

Plateau/Mountain region	85.3	22.2	56.1	29.8	538	16.1	23.1	61.4	34.6	719	2.8	25.3	57.2	30.0	951	6.3	34.4	64.5	41.1	1015
Education																				
No education	3.9	22.7	48.7	28.8	122	9.1	33.2	65.7	49.4	771	5.1	27.9	66.5	50.6	420	13.1	61.8	74.9	62.2	243
Primary	2.1	16.9	47.0	20.4	3075	3.3	19.5	58	32.9	3480	4.9	26.3	61.7	38.3	2607	5.8	35.3	69.8	47.4	1955
Secondary	2.5	12.3	43.5	17.7	1268	0.9	9.8	40.6	16.2	2269	1.8	12.8	44.0	19.2	3514	3.0	18.9	54.7	28.3	3287
Higher	0	0	28.1	13.2	35	*	0	15.3	11.6	126	*	0.4	8.5	6.3	348	*	0.0	8.4	6.8	425
Socio-economic status																				
Poorest	n/a	n/a	n/a	n/a	n/a	2.5	26.6	67	38.9	1036	5.0	28.3	71.8	42	1101	4.7	42.0	71.7	46.0	956
Poorer	n/a	n/a	n/a	n/a	n/a	5	18	60.3	34.3	1143	3.8	25.2	60.1	32.7	1172	2.6	34.4	66.3	39.4	1057
Middle	n/a	n/a	n/a	n/a	n/a	3.3	16.4	56.5	29.9	1261	2.7	21.2	55.4	29.9	1321	6.9	25.9	64.7	38.8	1139
Richer	n/a	n/a	n/a	n/a	n/a	2.4	17.1	51.7	26.6	1335	1.3	15.1	50.6	25.4	1526	3.1	16.5	54.5	31.6	1262

Richest	n/a	n/a	n/a	n/a	n/a	0.8	11.6	39.8	20.3	1871	2.7	6.0	28.8	15.9	1769	2.7	13.4	35.6	22.7	1496
Religion																				
Buddhist	2.3	17.2	46.3	21.5	5342	2.5	16.2	53.6	25.6	6415	2.7	16.9	50.9	27.5	6685	3.6	23.4	55.8	34.1	5644
Moslem	6.7	13.6	49.4	22	177	6.1	25.3	53.5	32.4	136	13.7	*	45.5	33.7	104	2.2	54.2	70.6	45.0	132
Christian	*	*	*	*	16	*	*	*	7.1	38	*	*	*	20.1	40	*	*	25.0	17.3	61
Other	*	*	*	30.4	65	*	43.5	75.4	48.2	57	*	*	*	46.8	60	29.0	*	78.9	56.4	73
Total	2.5	17.1	46.6	21.6	5600	2.6	16.6	5.4	28.7	6646	2.9	17.3	50.8	27.7	6889	4.0	24.6	56.1	34.5	5910

* Based on less than 25 cases - no cases in that cell of the table

Table 3.14 Percent distribution of married female adolescents and youth aged 15-24 years who gave birth before marriage, within 9 months of marriage (near) and at least 9 months after marriage by background characteristics and year of survey, Cambodia DHS 2000-2014

	2000				2005				2010				2014			
	Before	Near	After	N	Before	Near	After	N	Before	Near	After	N	Before	Near	After	N
Age																
15-17	0.6	31.8	67.6	28	0	8.9	91.1	34	0	10.9	89.1	34	0.4	3.3	96.3	29
18-19	1.5	8.6	89.9	173	2.6	9.2	88.2	152	0.1	9.8	90.1	163	0.4	4.8	94.8	183
20-24	2.5	11.3	86.2	868	1.7	5.9	92.4	1475	1.3	6.8	91.9	1458	1.7	5.8	92.5	1492
Place of Residence																
Urban	0.9	8.6	90.5	159	0.3	7.5	92.2	245	1.5	7.9	90.6	238	1.8	9.2	89.0	190
Rural	2.5	11.9	85.6	910	2.0	6.0	92.0	1416	1.1	7.0	91.8	1417	1.5	5.2	93.3	1514
Region																
Phnom Penh	0	6.9	93.1	64	1.7	5.7	92.6	145	1.5	5.1	93.4	107	1.6	4.4	94.0	108
Plain region	2.4	11.5	86.1	468	1.5	6.8	91.7	632	1	6.6	92.4	639	2.1	4.5	93.4	624
Great lake region	2.6	14.0	83.4	310	2.1	5.5	92.4	517	1.8	8.6	89.6	515	1.3	5.6	93.1	510
Coastal region	1.3	4.5	94.2	81	1.4	5.3	93.3	138	0.9	2.8	96.3	137	0.6	5.5	93.9	118
Plateau/Mountain	2.8	11.5	85.7	146	2.1	7.1	90.8	229	0.5	8.9	90.6	257	1.3	8.4	90.3	344
Education																
No education	3.5	12.9	83.6	320	2.8	6.6	90.6	348	4.3	4.3	91.4	192	0.3	5.2	94.5	135
Primary	1.7	12.3	86.0	558	1.4	6.2	92.4	1021	0.8	8.5	90.6	883	1.7	4.6	93.7	795
Secondary	2.0	6.4	91.6	190	0.8	6.1	93.1	282	0.4	5.9	93.8	561	1.6	6.8	91.6	754
Higher	*	*	*	*	*	*	*	10	*	*	*	19	*	*	*	20
Socio-economic status																
Poorest	n/a	n/a	n/a	n/a	3.6	5.9	90.5	378	1.6	7.7	90.7	417	1.4	5.5	93.1	389
Poorer	n/a	n/a	n/a	n/a	1.9	6.4	91.6	341	2	6.5	91.5	326	1.2	4.4	94.4	342
Middle	n/a	n/a	n/a	n/a	0.9	5.6	93.5	339	0.6	7	92.4	334	3.1	5.2	91.7	371
Richer	n/a	n/a	n/a	n/a	1.2	6.7	92.1	290	0.5	6.6	92.9	334	0.5	7.9	91.6	317
Richest	n/a	n/a	n/a	n/a	0.8	6.8	92.4	313	1.1	8.1	90.8	244	1.3	5.5	93.2	285
Religion																
Buddhist	2.4	11.1	86.5	1012	1.6	6.1	92.3	1597	1.2	7.2	91.6	1596	1.6	5.2	93.2	1612
Moslem	0	22.3	77.7	33	7	5.3	87.7	37	2.4	0	97.6	33	0	8.8	91.2	50
Christian	*	*	*	2	*	*	*	3	*	*	*	3	*	*	*	9
Other	*	*	*	18	3.9	15.4	80.7	25	*	*	*	23	2.6	19.2	78.2	33
Total	2.3	11.4	86.3	1069	1.7	6.3	92.0	1661	1.2	7.2	91.6	1655	1.6	5.6	92.8	1704

* Based on less than 25 cases

3.4.4 Abortion

The data presented in Table 3.15 reports on adolescents and youth who had an pregnancy end in an abortion at some time in their life. The question on induced abortion was not included in the 2000 and 2005 data collection, so the findings are restricted to the two most recent CDHS. In 2010 and 2014 only a very small number of abortions occurred in adolescents aged 15-19 years therefore we will only report on details in the 20-24 years age group. Among females 20-24 years, in years 2010 and 2014, the majority of married and unmarried women have not had an abortion in their lifetime. Among never married women the percent who have had one abortion in their lifetime is 0.1% in 2010 and 0.3% in 2014. The percentage is lower for never married women who have had two abortions; 0% in 2010 and 0.1% in 2014 and for three abortions it is zero in both 2010 and 2014. For married women 6.6% and 7.4% said they had one abortion in 2010 and 2014, respectively. The percent of women who reported they had two abortions was 0.7% and 0.5% in 2010 and 2014, respectively. Despite few married women reporting three abortions, 0.3% (n=5) and 0.2% (n=3) reported having done so in 2010 and 2014, respectively. There were women who reported having had an abortion in their lifetime but they did not report the number of abortions; in 2010 this was 0.7% (n=12) of the sample and in 2014 it was 0.2% (n=5) of women. There is a likelihood that women have under reported particularly in the never married sample. There is minimal change between 2010 and 2014 among women aged 20-24 years reporting that they had had an abortion in their lifetime.

Table 3.15 The percent and number of young women 20-24 who have had one or more abortions in their lifetime: CDHS 2010-2014

Number of abortions	2010				Number of abortions	2014			
	Never married		Married			Never married		Married	
	%	N	%	N		%	N	%	N
0	99.9	1358	91.7	1646	0	99.6	1077	91.7	1776
1	0.1	1	6.6	120	1	0.3	3	7.4	142
2	0	0	0.7	12	2	0.1	1	0.5	10
3	0	0	0.3	5	3	0	0	0.2	3
Termination(s)	0	0	0.7	12	4	0	0	0.2	5

Total	1359	1795	1081	1936

The method used to carry out abortions in adolescents and youth are shown in Table 3.16. In 2010 among women 20-24 years who have an abortion in the last 5 years, 64% were surgical and 32.6% medical and 3.4% and both. In 2014, 43.4% had a surgical abortion, 48% had a medical abortion and 8.5% experience both. There is an increase in medical abortion among women 20-24 years from 2010 to 2014 and conversely a decrease in surgical abortion for the same age group. Additionally, the percentage of women having both a medical and surgical intervention for an abortion has more than doubled between 2010 and 2014.

Table 3.16 Amongst young women 20-24 who had an pregnancy that was aborted in the previous five years, the percent and number of each method of abortion: CDHS 2010-2014

Method of abortions	2010		2014	
	%	N	%	N
Surgical	64.0	83	43.4	63
Medical	32.6	42	48.0	70
Surg. & Med.	3.4	5	8.5	12
Traditional	0	0	0.1	1
Total		130		146

3.5 MATERNAL CARE

3.5.1 Antenatal care

Over the period from 2000 to 2014 there has been an increase in the number of pregnant young women aged 15 to 24 years who are receiving antenatal care from a health professional (Table 3.17). Those with higher education are more likely to receive care from a health professional than those with no education and there is a similar relationship with socioeconomic status, with those in the higher wealth quintiles being more likely to receive antenatal care from a health professional. Of note is that 9% of those with no education have not received any antenatal care and neither have 6% of those in the lowest wealth quintile.

However, it should be noted that the questions about who was in antenatal care allows for multiple people to be recorded separately. The convention is to record the most highly qualified person who provided any antenatal care as the primary caregiver. This may over estimate the number of health professionals who provided care as although they may have been present at an antenatal visit they may not be the actual person who provided the majority of the care.

To meet the WHO guidelines for ANC, women should attend at least four ANC visits at specified times during their pregnancy. The total number of visits (Table 3.18) is an indication of care but without details on the specific weeks of pregnancy when the care was delivered it is not possible to use the results to measure compliance with the WHO guidelines. Table 3.19 shows the month of pregnancy when women attended their first of their ANC visit during their most recent pregnancy.

Table 3.17 Antenatal care

Among female adolescents and youth aged 15-24 who have had a birth in the last five years, the percent who received antenatal care during their last pregnancy from a health professional (i.e. doctor, midwife, nurse) another person (i.e. birth attendant, village health volunteer, other person) or no one by background characteristics, Cambodia DHS 2000-2014

Background characteristics	2000				2005				2010				2014			
	Health Professional	Other	No one	N	Health Professional	Other	No one	N	Health Professional	Other	No one	N	Health Professional	Other	No one	N
Age																
15-17	36.7	11.5	51.8	28	57.5	9.4	33.1	34	90.6	1.4	8.0	34	97.8	0	2.2	29
18-19	46.6	5.8	47.6	173	74.6	1.2	24.2	152	91.8	1.2	7.0	162	95.6	0.4	4.0	183
20-24	42.0	7.0	51.0	847	73.5	2.9	23.6	1422	93.0	0.8	6.2	1427	96.4	0.3	3.3	1442
Place of Residence																
Urban	70.5	5.6	23.9	157	85.2	1.1	13.7	237	97.3	0.0	2.7	230	98.1	0.0	1.9	180
Rural	37.7	7.2	55.1	891	71.1	3.2	25.7	1371	92.1	1.0	6.9	1393	96.1	0.4	3.5	1474
Region																
Phnom Penh	91.2	0	8.8	60	88.3	0.0	11.7	141	100.0	0.0	0.0	101	98.0	0.0	2.0	104
Plain region	39.8	4.8	55.4	463	73.8	1.1	25.1	603	95.5	0.4	4.1	626	99.0	0.0	1.0	610
Great lake region	43.2	13	43.8	304	77.3	4.0	18.7	505	94.4	2.0	3.6	508	97.8	0.8	1.4	492
Coastal region	45.9	0.0	54.1	80	70.1	1.0	28.9	134	85.7	0.3	14.0	135	94.8	0.0	5.2	112
Plateau/Mountain region	28.4	7.8	63.8	141	54.8	8.0	37.2	225	84.1	0.4	15.5	253	89.4	0.4	10.2	336
Education																
No education	26.9	8.6	64.5	314	53.3	5	41.7	344	82.7	0.8	16.5	188	88.3	2.6	9.1	128
Primary	41.0	7.0	52.0	549	75.4	2.9	21.7	985	91.5	1.2	7.3	863	95.5	0.2	4.3	775
Secondary	73.8	4	22.2	183	89.5	0.5	10.0	270	98.2	0.4	1.4	555	98.7	0.0	1.4	731
Higher	*	*	*	2	*	*	*	9	*	*	*	17	*	*	*	20
Socio-economic status																
Poorest	n/a	n/a	n/a	n/a	59.5	3.0	37.5	378	84.4	1.7	13.9	409	93.8	0.2	6.0	374
Poorer	n/a	n/a	n/a	n/a	68.0	5.2	26.8	331	92.1	0.4	7.5	318	95.1	0.8	4.1	337
Middle	n/a	n/a	n/a	n/a	73.6	2.6	23.8	318	94.7	0.6	4.7	332	96.7	0.0	3.3	364
Richer	n/a	n/a	n/a	n/a	76.7	3.0	20.3	282	97.3	1.2	1.5	330	98.2	0.6	1.2	311
Richest	n/a	n/a	n/a	n/a	92.5	0.5	7.0	299	99.7	0.0	0.3	234	98.9	0.0	1.1	268
Total	42.6	7.0	50.4	1048	73.2	2.9	23.9	1608	92.8	0.9	6.3	1623	96.4	0.3	3.3	1654

* Based on less than 25 cases

Table 3.18: Number of antenatal care visits during the last pregnancy amongst female adolescents and youth aged 15-24 years

Percent distribution of antenatal care visits amongst female adolescents and youth aged 15-24 years who have had at least one pregnancy in the last five years by background characteristics and y

	2000				2005				2010				2014			
ANC visits	0	1-3	4+	N	0	1-3	4+	N	0	1-3	4+	N	0	1-3	4+	N
Age																
15-17	51.8	34.8	13.4	28	33.1	41.3	25.6	35	8.0	19.8	72.2	34	2.2	33.2	64.6	29
18-19	47.7	41.7	10.6	172	24.2	47.3	28.5	152	7.0	29.0	64.0	163	4.0	30.4	65.6	184
20-24	51.6	39.0	9.4	837	23.7	43.9	32.4	1418	6.2	26.9	66.9	1418	3.3	20.2	76.5	1438
Birthorder																
First child	44.7	44.1	11.2	592	19.8	43.4	36.8	962	4.9	26.4	68.7	1123	2.5	20.1	77.4	1204
Second child	56.8	34.9	8.3	323	29.4	46.9	23.7	511	8.5	26.2	65.3	403	4.1	23.1	72.8	398
Third or more	65.8	28.4	5.8	122	32.8	39.3	27.9	132	14.8	36.7	48.5	89	17.8	46.2	36.0	49
Place of Residence																
Urban	24.2	53.7	22.1	154	13.8	34.1	52.1	235	2.7	11.4	85.9	230	1.9	14.4	83.7	180
Rural	55.6	36.8	7.6	883	25.7	45.9	28.4	1370	6.9	29.5	63.6	1385	3.5	22.5	74	1471
Region																
Phnom Penh	8.8	52.8	38.4	60	11.7	30.3	58.0	141	0.0	7.0	93.0	101	2.0	12.7	85.3	104
Plain region	55.7	38.2	6.1	460	25.0	48.0	27.0	603	4.1	27.2	68.7	620	1.0	22.2	76.8	610
Great lake region	44.3	42.5	13.2	300	18.7	44.4	36.9	504	3.6	26.0	70.4	506	1.4	16.0	82.6	492
Coastal region	54.3	42.8	2.9	80	29.1	45.5	25.4	133	14.0	44.1	41.9	135	5.2	21.5	73.3	111
Plateau/Mountain	65.8	28.7	5.5	137	37.3	41.2	21.5	224	15.7	27.0	57.3	253	10.3	31.6	58.1	334
Education																
No education	65.0	30.6	4.4	311	41.8	39.5	18.7	343	16.6	42.1	41.3	186	9.1	36.1	54.8	128
Primary	52.5	40.9	6.6	544	21.7	48.7	29.6	983	7.3	28.2	64.5	861	4.3	25.5	70.2	773
Secondary	22.5	50.0	27.5	181	10.1	34.1	55.8	269	1.5	20.6	77.9	550	1.4	15.4	83.2	730
Higher	*	*	*	1	*	*	*	10	*	*	*	17	*	*	*	20
Socio-economic status																
Poorest	n/a	n/a	n/a	n/a	37.5	44.8	17.7	377	14.0	33.2	52.8	409	6.0	33.3	60.7	374
Poorer	n/a	n/a	n/a	n/a	26.8	49.5	23.7	331	7.5	29.1	63.4	317	4.1	29	66.9	336
Middle	n/a	n/a	n/a	n/a	23.8	52.8	23.4	318	4.7	33.6	61.7	331	3.3	19.1	77.6	362
Richer	n/a	n/a	n/a	n/a	20.4	42.6	37.0	281	1.5	18.1	80.4	325	1.2	11.8	87.0	311
Richest	n/a	n/a	n/a	n/a	7.0	29.8	63.2	298	0.3	15.8	83.9	233	1.1	10.8	88.1	268
Total	50.9	39	9.7	1,037	23.9	44.2	31.9	1,605	6.3	26.9	66.8	1,615	3.3	22	75.1	1,651

Table 3.19: The month of pregnancy in which young women 15-24, who received antenatal care during their last pregnancy, attended their first antenatal care visit: CDHS 200-2014

Months pregnant at first ANC visit	2000		2005		2010		2014	
	%	N	%	N	%	N	%	N
1	1.7	9	3.7	46	24.5	373	38.1	610
2	5.5	28	11.1	136	25.3	385	25.9	415
3	12.6	65	19.7	242	23.9	363	18.9	302
4	10.4	53	15.9	194	11.2	170	8.2	131
5	20.9	108	21.3	261	7.9	120	4.6	73
6	15.2	78	10.9	133	4.2	65	2.1	33
7	14.6	75	8.8	108	1.6	24	1.7	28
8	10.4	54	5.8	71	0.7	10	0.2	3
9	6.8	35	2.3	28	0.5	8	0.3	4
Unknown	1.9	10	0.4	5	0.2	3	0	0
Total		514		1224		1521		1599

Of those young women who received ANC the percent who attended their first ANC visit in the first 12 weeks (3 months) of pregnancy rose from 19.8% in 2000 to 82.9% in 2014.

3.5.2 Delivery attendant

Across all four surveys from 2000 to 2014 very few young women deliver their babies without someone in attendance (Table 3.20). Between 2000 and 2005 there was a 15% increase in those who had a health professional in attendance at delivery and this increased by almost another 30% between 2005 and 2010 and continued to rise in 2014 when almost 90% of young women are attended by a health professional when they deliver their babies. This is encouraging and should lead to fewer birth complications for both mothers and babies. However, it should be noted that the questions about who was in attendance at the birth allows for multiple people to be recorded separately. The convention is to record the person who assisted with the delivery as the most highly qualified person who was present. This

may over estimate the number of health professionals who assisted at the delivery as although they may have been present they may not be the actual person who delivered the baby.

3.5.3 Abortion attendant

The data on treatment and services about the last pregnancy that ended in abortion were only available for the 2010 and 2014 surveys. Small numbers mean that estimates could not be reliably calculated for a number of characteristics, however the data appear to support the more robust measure of whether or not an abortion was surgical or medical. There was an increase in the percent of medical abortions over time (see Table 3.16) and this is consistent with the increasing numbers of young women who are alone when their abortion takes place (Table 3.21). In 2010 only 23.5% of young women had no one present at the abortion and this has risen to 35.2 four years later.

Table 3.20 Delivery attendant

Among female adolescents and youth aged 15-24 who have had a birth in the last five years, the percent whose last child was delivered by a health professional (i.e. doctor, midwife, nurse) another person (i.e. birth attendant, village health volunteer, other person) or no one by background characteristics, Cambodia DHS 2000-2014

Background characteristics	2000				2005				2010				2014			
	Health Professional	Other	No one	N	Health Professional	Other	No one	N	Health Professional	Other	No one	N	Health Professional	Other	No one	N
Age																
15-17	29.1	67.7	3.2	28	34.6	65.4	0	34	86.7	13.3	0	34	83.2	16.8	0	29
18-19	32.1	67.9	0	172	53.7	46.2	0.1	152	78.0	22	0	162	81.6	18.4	0	183
20-24	33.5	66.5	0	847	47.4	52.4	0.2	1422	76.2	23.6	0.2	1425	88.7	11.3	0	1442
Place of Residence																
Urban	59.5	40.5	0	157	74.6	25.4	0	237	94.1	5.9	0	230	93.3	6.7.0	0	180
Rural	28.5	71.4	0.1	890	43.1	56.7	0.2	1371	73.7	26.1	0.2	1391	87.2	12.8	0	1474
Region																
Phnom Penh	90.9	9.1	0	60	85.3	14.7	0	141	98.2	1.8	0	101	89.1	10.9	0	104
Plain region	28.7	71.5	0	463	51.6	47.9	0.5	603	80.8	18.9	0.3	624	89.7	10.3	0	610
Great lake region	30.0	69.7	0.3	304	42.7	57.3	0	505	77.4	22.6	0	508	92.4	7.6	0	492
Coastal region	44.7	55.3	0	80	49.7	50.3	0	134	74.6	25.4	0	135	92.9	7.1	0	112
Plateau/Mountain region	23.7	76.3	0	140	23.7	76.2	0.1	225	57.3	42.6	0.1	253	75.8	12.2	0	336
Education																
No education	16.8	83.2	0	314	24.5	74.6	0.9	344	52.0	48	0	188	73.6	26.4	0	128
Primary	31.4	68.4	0.2	548	45.3	54.7	0	985	74.2	25.5	0.3	862	84.3	15.7	0	775
Secondary	66.0	34.0	0	183	84.1	15.9	0	270	87.9	12.1	0.0	554	94.0	6.0	0	731
Higher	*	*	*	2	*	*	*	9	*	*	*	17	*	*	0	20
Socio-economic status																
Poorest	n/a	n/a	n/a	n/a	21.0	78.2	0.8	378	58.9	40.6	0.5	409	77.5	22.5	0	374
Poorer	n/a	n/a	n/a	n/a	29.4	70.5	0.1	331	75.8	24.2	0.0	318	82.5	17.5	0	337
Middle	n/a	n/a	n/a	n/a	45.8	54.2	0	318	75.6	24.3	0.1	331	89.6	10.4	0	364
Richer	n/a	n/a	n/a	n/a	62.0	38.0	0	282	85.8	14.2	0	330	98.0	2.0	0	311
Richest	n/a	n/a	n/a	n/a	90.3	9.7	0	299	97.2	2.8	0.0	233	94.7	5.3	0	268
Total	33.2	66.7	0.1	1047	47.7	52.1	0.2	1608	76.6	23.2	0.2	1621	87.8	12.2	0	1654

Table 3.21 Abortion attendant

Among female adolescents and youth aged 15-24 who have had an abortion in the last five years, the percent with a health professional (i.e. doctor, midwife, nurse) another person (i.e. birth attendant, village health volunteer, other person) or no one in attendance at the time of the abortion by background characteristics, Cambodia DHS 2000-2014

Background characteristics	2010				2014			
	Health Professional	Other	No one	N	Health Professional	Other	No one	N
Age								
15-17	*	*	*	2	*	*	*	4
18-19	*	*	*	4	*	*	*	16
20-24	51.3	25.4	23.3	130	43.2	21.4	35.4	146
Place of Residence								
Urban	49.2	26.6	24.2	36	43.7	19.4	36.9	46
Rural	53.2	23.5	23.3	100	46.4	19.1	34.5	120
Region								
Phnom Penh	*	*	*	18	48.0	14.9	37.1	38
Plain region	54.3	20.5	25.2	43	53.2	23.1	23.7	65
Great lake region	60.6	15.4	24.0	44	33.0	26.4	40.6	31
Coastal region	*	*	*	22	*	*	*	15
Plateau/Mountain region	*	*	*	9	*	*	*	17
Education								
No education	*	*	*	8	*	*	*	3
Primary	44.5	26.1	29.4	79	38.5	24.0	37.5	87
Secondary	58.6	25.1	16.3	49	54.7	12.1	33.2	73
Higher	0	0	0	0	*	*	*	3
Socio-economic status								
Poorest	51.4	27.7	20.9	25	*	*	*	23
Poorer	45.8	16.2	38.0	26	59.1	9.3	31.6	34
Middle	*	*	*	24	34.0	25.9	40.1	27
Richer	60.3	30.0	9.7	29	*	*	*	24
Richest	47.3	28.6	24.1	32	47.4	21.6	31.0	58
Total	52.2	24.3	23.5	136	45.6	19.2	35.2	166

* Based on less than 25 cases

4. DISCUSSION AND CONCLUSION

4.1 TRENDS IN AGE, MARRIAGE AND SEXUAL ACTIVITY

The CDHS data analysed across the five survey years (2000-2014) shows that the majority of young people 15-24 years are living in rural areas. Among ever married females and males 15-24 years, young people in the rural areas marry at a younger age than their urban counterparts. Education trends from 2000 to 2014 are promising, with fewer young people reporting no education, and higher rates of primary, secondary and higher education in rural and urban areas trending positively across the survey years. The significant increase in education level among young people across the country is a positive trend and needs to be harnessed as it provides an opportunity to engage the students in SRH education. For example, young people attending school will engage in SRH education programs such as that the MoEYS Comprehensive Sexuality Education curriculum in schools (prep to Year 12), which begins in 2018 (UNFPA & RGOC 2016). To date, there is no plan to introduce SRH education into colleagues, vocational training centre and universities. Preventative health communication interventions with this young population while they undertake higher education is an ideal point of contact and would occur at an age and life stage when sexual debut typically occurs (UNFPA, UNESCO & WHO 2015).

The percent of currently married young people aged 15-24 years has increased in all age groups over the survey years; females 25.8% in 2000 and it was 38.7% in 2014, and for males it was 16.5% in 2000 and 19% in 2014. In 2014, approximately 50% of all married women aged 20-24 years were married by age 20 years whereas less than half (24%) the males in the same age group were married by age 20 years. Females are marrying younger than males and the majority are married by age 20 years.

Many Cambodian DHS publications repeatedly state that female's sexual debut occurs at the time of union. However, in 2014 only 1% of unmarried females 15-24 years report ever having sex which is likely to be a gross underestimation and therefore does not provide an accurate picture of sexual activity among unmarried females 15-24 years. There are many reasons why young unmarried females do not give an honest answer to questions about sexual activity; 1) embarrassment, shame and social stigma associated with sex before marriage, 2) young unmarried females feel embarrassed when an older person asks them questions about sex, especially if the person is known to them, is from a higher social status, or is a local health or government worker; and 3) when bystanders can hear their responses. Many studies have highlighted the under reporting and response bias when unmarried females answer questions about their sexual activity. To reduce the underreporting and bias,

studies employ confidential survey methods when exploring sensitive issues such as SRH issues such as the audio-assisted survey interview method that was used with female garment factory workers in rural and urban garment factory workers in 2014 (Read 2014). Women were given booklets that were placed in a box and they sat 1 meter away from the nearest person so they could answer the question in private (Oon 2015; Read 2014; Shone 2015). However, the situation is different for unmarried males as they do not bear the same social stigma and shame associated with sex prior to marriage. In 2005 1.8% of unmarried males 15-17 years, 9.6% aged 18-19 years and 27.2% aged 20-24 years reported they had had sex; the same trend was reported in 2010 and 2014 surveys. Sexual debut occurs earlier in females than in males. The underreporting of premarital sex among unmarried females provides an incomplete understanding of the real situation.

Exact age at first sex reveals a disturbing finding. Women who were 20-24 years of age in 2000 who reported having had sex by the time they had turned 15 years old, indicate that they had begun sexual activity in the first half of the 1990's. This same response in those 18-19 years of age translates to sexual activity in the mid 1990's and for those 15-17 years to sexual activity in the late 1990's. The decline in the percent of females reporting sexual debut at such a young age is associated with later birth years, so the prevalence of sex in girls under 15 years was reducing at the turn of the century. A decade later in 2010, reports of child sex that had occurred between 2000 and 2010, had declined. Alarmingly, in 2014 the prevalence of child sex that occurred between 2005 and 2014 has increased, again. Sex with children is a crime under international and Cambodian law and therefore warrants further examination.

Consistent with the international literature there was a significant age difference between females aged 15-24 years and their partner, especially between females in the 15-17 and 18-19 years age groups. In 2014, the mean age difference among 15-17 years, 18-19 years and 20-24 years was 6 years, 5.5 years and 4 years, respectively. This finding was consistent across the survey years 2010 and 2014. The majority of females (99%) said that their most recent partner was their husband or cohabitating partner however it was different for males. In 2005, 11% and in 2014, 18.5% of males aged 15-24 years said that their most recent partner was a girlfriend, fiancé or casual acquaintance. The rate of sex with a commercial sex workers has decreased among 15-24 years old males between 2005 and 2014 from 17.3% to 2.2%, respectively. However, the findings for females 15-24 years need to read with caution as only 1% of unmarried females said they had had sexual intercourse which means the only married females or who had a cohabitating partner responded to this question.

4.2 PREGNANCY AND MOTHERHOOD AMONG ADOLESCENTS AND YOUTH

Adolescent pregnancy is a major concern in Cambodia and in many other Asia and Pacific countries as it is associated with significant social, health and economic consequences. In Cambodia, there has been a decline in the fertility rate among 15-24 years old females between 2000 and 2014 with a greater decline seen in urban areas. Conversely, the fertility rate among 15-19 years old females in rural areas has increased. In addition, the percentage of 15-24 years old females who have begun childbearing increased each survey year; in 2014, 19.5% of urban and 38.2% rural females had begun childbearing. There is a significant difference between childbearing rates among 15-24 years old females across geographic areas. In 2014, Phnom Penh had the lowest rate of childbearing among this age group with 11.6% and the Mountains/Plateau had the highest at 41.1%. Among all geographic areas and across all survey years the Mountains/Plateau region had the highest rate of childbearing among females 15-24 years and it increased by 11% between 2000 and 2014. Again, there is a strong relationship between childbearing and education and wealth quintile. In 2000 and 2014, 28.8% and 62.2% of females 15-24 years, respectively, with no education had begun childbearing. Whereas the opposite trend occurred among females who had a higher education level, the rate more than halved between 2000 and 2014 from 13.2% in 2000 to 6.8% in 2014. Females 15-24 years from the poorest wealth quintile were more likely to begin childbearing early and the proportion increased across the survey years demonstrating an increase in the socio-economic divide among poor and rich females who have commenced childbearing.

There is significant social pressure on young females to marry before they have sex and begin a family, however the same pressure does not exist among young males. As noted earlier, publications about fertility and childbearing in Cambodia repeatedly state that sexual debut for young females generally occurs at the time of union. In order to understand this cultural phenomenon in more detail it was necessary to analyse related variables, such as time at marriage and time at first birth across the survey years. The findings are interesting. Among females 15-17 years 0% to 0.06%, 18-19 years 0.1% to2.6% and 20-24 years 1.3% to 2.5% had a birth before marriage. This pattern existed across all the survey years. To determine if young females gave birth within 9 months of being married (meaning that they had sexual intercourse before marriage) the results show that among 15-17 years old it was 31.8% in 2000 and fell to 3.3% in 2014, 18-19 years old it was 86% in 2000 and 4.8% in 2014 and among 20-24 years old it was 11.3% in 2000 and 5.8% in 2014 indicating a significant decline over the survey years. But the primary finding is that between 2000 and 2014, 5-10%

of females aged 15-24 years had a birth within 9 months of being married, which means they were pregnant at the time of marriage. This new finding is important and can inform the Cambodian Government's SRH programs and family planning services. This finding demonstrates that a significant number of 15-24 years old females are sexually active prior to union and they have a definite need for family planning, either to space births or to prevent unwanted pregnancies.

4.3 STIs, HIV AND CONDOM USE

Condom use among males 15-24 years dropped significantly between 2005 and 2014. There is higher use of condoms at last sexual encounter among urban males compared to their rural counterparts; 57.2% urban and 10.3% rural males 15-24 years used a condom at their last sexual encounter. Older males 20-24 years are less likely to use condoms than males 15-19 years with the same urban to rural trend. There is a significant association between education level and wealth quintile and condom use. Condom use increases with education level. In 2014, among males 15-24 years who had with no education, there was zero condom use among this group compared to males with higher education where 47.6% used at condom during their last sexual encounter. In 2005, among males 15-24 years from the poorest wealth quintile only 8.3% used a condom in their last sexual encounter whereas 63.3% males from the richest quantile did. The trend is consistent in 2014, with 4% males in the poorest and 44% of males in the richest quintile stating that they used a condom during their last sexual encounter. These findings are alarming and demonstrate an urgent need for mass media interventions aimed at 15-24 years old males to promote condom use a protective measure for STIs and HIV and prevention of unplanned pregnancies, especially the poorest and least educated males, with a focus on males living in rural areas.

Young people's comprehensive knowledge of HIV transmission declined among males and females between 2000 and 2014, in particular for females especially those aged 15-17 years. In 2014, 32.8%, 35.1% and 43% of females 15-17 years, 18-19 years and 20-24 years respectively, had a comprehensive knowledge of HIV transmission. Between 2000 and 2010, among males aged 15-19 years 40-44% and 20-24 years nearly half had a comprehensive knowledge of HIV transmission. Urban males and females had a higher comprehensive knowledge of HIV transmission than their rural counterparts. There was a huge gradient among education levels in all survey years. In 2014 17.9% of females 15-24 years with no education level and 20.1% of males had a comprehensive knowledge of HIV transmission, whereas 74.6% of females and 76.2% of males with a higher education level had a

comprehensive knowledge of HIV transmission. Again, wealth quintile had a significant effect on comprehensive knowledge of HIV transmission in all survey years. Young people in the poorest wealth quintile had the lowest comprehensive knowledge of HIV transmission compared to those in the richest quintile who had the highest level. The same trend in education level and wealth quintile was evident among 15-24 years old males and females with knowledge of the risk factors for HIV. As with comprehensive knowledge of HIV transmission, females' knowledge of the HIV risk factors also dropped for all age groups; this was a statistically significant finding. Noteworthy, females reported higher rates of STIs or STI symptoms in the previous 12 months compared to males in the same age group each survey year. However, among females 15-19 years and 20-24 years there was an increase in reporting of STIs and symptoms of STIs by each survey year and by 2014, 10% of 15-19 and 12% of 20-24 years old females had reported a STI or symptoms of STI in 12 months prior to the survey. This is a significant finding and warrants further research in particular qualitative research that explores females' and males' explanatory models of reproductive tracts infections.

4.4 FAMILY PLANNING AND CONTRACEPTION

Over the fifteen years (2000-2014) there has been a gradual increase in contraceptive use among sexually active 15-24 years old females; again, it is important to note that on 1% of unmarried females said that had had sexual intercourse. The reported increase is among females using traditional and modern methods. In 2000, 12% of females 20-24 years were using a modern method and in 2014 it was 33%. For traditional methods among 20-24 years old females it was 3% and 13% in 2000 and 2014, respectively. In 2000 there as a significant gradient between women in rural and urban areas using a contraceptive method, however in 2010 and 2014 approximately 40% of females 15-24 years are using a contraceptive method (traditional and modern) in both rural and urban areas. An important and disturbing finding relates to education and wealth quintile level and contraceptive use; the higher the females' education level and wealth quintile the higher the rates of traditional contraceptive use. The more educated and wealthier Cambodian females 15-24 years have turned away from modern contraceptive methods in favour of traditional methods namely withdrawal method. This finding supports recent research (Hoban 2016) with females employed in the not for profit sector in Phnom Penh who had a minimum of year 12 education. Hoban found that educated women (married and single) preferred the withdrawal and rhythm methods instead of modern methods because of the perceived side effects of hormone based contraceptives such as the

oral pill and injection. Importantly, the women reported side effects that were not their own experiences, instead they were hearsay, rumours or stories of friends and family members or the experiences of women whom they did not know. This finding indicates that there is an urgent need for the National Reproductive Health Programme to focus their information, education and communication and service activities on the increasing rates of traditional contraceptive methods, especially the withdrawal method among all young women, especially educated women from higher social and economic groups. To date the program has ignored traditional contraceptive methods during education and service activities. Instead they have focused on married women who attend family planning services at public health facilities for modern methods; these women are already 'converted' to the use of modern methods.

Another significant finding was the percentage of sexually active females 15-24 years who were not using any contraceptive method. In 2000, approximately 90% of sexually active young women reported not using a method and in 2014 it was approximately 70%. Despite the percentage falling over the 15-year period, the fact that 70% of sexually active young females are not using any contraceptive method in 2014 is a significant cause for concern. Also of concern is the fact that the main reason why females 15-24 years decided to stop taking a contraceptive method in the previous 5 years was because they wanted to become pregnant, the second reason was the side effects and the third was contraceptive failure. Among the 15-24 years old females, 90 young women became pregnant while using a contraception method and almost 67% of the women were using the withdrawal method and just over 19% were on the pill. This indicates the unreliability of the withdrawal method, as more than two thirds of the unplanned pregnancies occurred in this group. Almost one in five of the unplanned pregnancies were in young women taking the pill, however, if taken correctly the oral pill is known to less than 1% failure rate (Trussell 2011). Among females who reported side effects as the main reason they stopped using the contraception method, more than 85% were taking either the pill or contraceptive injection. Amongst those who reported wanting a more reliable contraceptive method 55% came from the group that had formerly used the withdrawal method. Again, the findings demonstrate that 15-24 years old sexually active females have a significant need for family planning interventions that meet their SRH needs, which includes family planning education and counselling, access to youth friendly SRH health services and effective contraceptive methods. As noted above, the government family planning programs have focused on married women who access the public health facilities. They have ignored the needs of adolescents and youth who

demonstrate a significant and urgent need to family planning interventions that ensure their reproductive rights and provide them with opportunities to choose effective contraceptive methods that protective them from STIs and HIV and unwanted pregnancies.

4.5 MATERNAL HEALTH

The topic of abortion among unmarried female adolescents and youth is sensitive and is likely to be grossly underreported. However, the majority of 15-24 years old unmarried females did not report having had an abortion in their lifetime. Among unmarried females aged 20-24 years, 0.19% and 0.3% in 2010 and 2014, respectively, reported having had one abortion. Among married females 20-24 years, 6.6% and 7.4% in 2010 and 2014, respectively report having had one abortion in their lifetime; there is a low percentage of females who report two or more abortions. However, the type of abortion method used shows interesting results; in 2010, 64% of females had a surgical abortion, 32.6% a medical abortion and 3.4% had both (medical and surgical) and in 2014, 43.4% had a surgical abortion, 48% had a medical abortion and 8.5% had both. This trend is alarming because there is an increase in medical abortion and 'both', which more than doubled in the four years from 2010-2014. This finding is consistent with the finding in survey years 2010 and 2014 when there was an increase in the number of women who said there was 'no one' present at their abortion. In 2010, 23.5% and in 2014, 35.2% of females said there was 'no one' present at their abortion. This result warrants urgent attention by national SRH policy makers and their technical advisers as this trend occurred in 4 years.

Generally, from 2000 to 2014 there was a trend for more females aged 15-24 years to attend ANC with health professionals. This is more evident among females with higher education compared to females with no education and among females from the higher wealth quintile compared to females from the poorest quintile. Of concern is, in 2014, 9% of females aged 15-24 years with no education and 6% of females from the lowest wealth quintile did not attend ANC at all in their last pregnancy. The number of births with a health professional increased between 2000 and 2014. By 2014, 90% of females 15-24 years had given birth with a health professional. This is likely to be an underestimate of deliveries conducted by non-health professionals such as traditional birth attendant (TBA) because of the possible CDHS responses options, i.e. respondents can provide multiple birth attendants. For example, if a female says her birth attendants were TBA, nurse, midwife then the default answer is midwife as this person is the most qualified birth attendant.

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