Original Article

Outcomes and Factors Associated with Adolescent Pregnancies at the University Teaching Hospital, Lusaka, Zambia

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ABSTRACT

Objectives: These were to determine obstetric outcomes associated with adolescent pregnancies and those of older women at the UTH, identify factors associated with and compare the obstetric outcomes between the two age groups with determining the scale of adolescent pregnancy.

Materials and methods: This was a comparative prospective cross sectional study with a purposeful sample of 200 pregnant adolescents and women aged between 20 and 30 years in a ratio of 1:1.

Results: 3,456 women delivered between September and October, 2015 out of which 480 (13.9%) were adolescents. Of the 100 adolescents studied, 62(62%) had dropped out of school due to pregnancy and 81(81%) of the pregnancies were unplanned.

Factors associated with adolescent pregnancies noted included mean age at coitarche (p<0.001), early marriages (p<0.001; AOR 14.6, 95% CI: 4.642 - 45.99), primary education (p 0.002; AOR 4.522, 95% CI: 1.758 – 11.634), having a boyfriend (p<0.001; AOR 12.70, 95% CI: 4.04 – 39.91) and contraceptive use. There were 95(95%) adolescents who had never used a contraceptive before compared to 40(40%) older women (p<0.001).

Adolescents were also significantly associated with first degree perineal tears (p<0.001; AOR 3.46, 95% CI: 1.83 - 6.56) and preterm deliveries (p 0.026, AOR 2.60, 95% CI: 1.16 - 5.78). Furthermore, although not statistically significant, more adolescents 22(22%) had low birth weight babies compared to 14(14% older women and 11(11%) had pregnancy induced hypertension versus 7(7%) older mothers. In addition, out of the 10 documented caesarean sections among the study participants, 8(80%) were done among adolescents (p 0.052).

Conclusion: Several factors and adverse obstetric outcomes are associated with adolescent pregnancies seen at the UTH. Although adolescent pregnancy is reducing, it remains high and contributing significantly to discontinuation of school. Key stakeholders need to continue targeting adolescents with appropriate health messages including an emphasis on increased access to and utilization of effective contraceptives.

INTRODUCTION

Adolescent pregnancy refers to pregnancy in a woman aged between 10 and 19 years (WHO, 2004).Such pregnancies have been a matter of concern at the global level largely because of the risks to the health and well-being of the underage mothers (Ogunlesi et al., 2013). Adolescents tend to have higher levels of medical complications involving both the mother and the baby when they are pregnant (Bouzas, Cader&Leão, 2014).In addition, there are adverse social effects of school-age pregnancies such as sudden termination of

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education, disruption of the family system and assuming duties and responsibilities of parenthood prematurely, for which they are not prepared (Ogunlesi, et al., 2013).

Adolescent pregnancy, especially unplanned, is a major health concern in Zambia with the current low use of any contraceptive standing at 10.6% among adolescents(CSO, MOH, ICF international, 2014).Factors associated with adolescent pregnancies and their obstetric outcomes for those seen at the UTH were not clearly understood, defined and documented. Being an issue of public health concern in the country, it was important that the subject be studied further as part of the continuing efforts to reduce the adverse obstetric outcomes related to adolescent pregnancies.

METHODS

This was a comparative prospective cross sectional study targeting all adolescent pregnancies and women aged 20 - 30 years in Lusaka delivering at the UTH. The study participants were recruited from the labour ward after being admitted and were followed up in the postnatal wards where they were interviewed from. A total of 200 women were recruited. To provide a 1:1 comparison, 100 older women aged 20 - 30 years and 100 adolescents meeting the eligibility criteria were purposefully selected.

RESULTS

A total of 3,456 women delivered during the study period out of which 480(13.9%) were adolescents. The mean ages for the adolescents and the older women were 17.5 years and 23.9 years respectively. There were 28(28%) married adolescent with72(72%)being unmarried compared to 16(16%) older unmarried women. The mean age at marriage for the married adolescents was 16.8 years (p<0.001). Out of the 28 married adolescents, 21(75%) got married early (i.e. below 18 years of age) compared to 11(13.1%) older women who got married early. Early marriages were significantly associated with adolescent pregnancy (p<0.001)(AOR 14.6, 95% CI: 4.642-45.990).

Adolescent pregnancy was significantly associated with dropping out of school (p < 0.001) with 62(62%) adolescents compared to 6(6%) older mothers having dropped out of school due to being pregnant. In addition, more adolescents i.e. 33(67.3%) versus 16(32.7%) older women had primary education. Adolescents with primary education only were 2.57 times more likely to be pregnant compared to those with higher education (95% CI: 1.313-5.093; p 0.006). Tertiary education was protective for adolescent pregnancy (AOR 0.108; 95% CI: 0.013-0.822; p 0.032).The study also revealed that45(45%) adolescents and 17(17%) older women who had early sexual debut (i.e. initiation of sex before age 16 years). Early sexual debut was significantly associated with adolescent pregnancy (p<0.001). Furthermore, male partners to the adolescents were on average five years older and this too was significantly associated with adolescent pregnancy (p<0.001). It was also noted that 68(68%) adolescents reported having had boyfriends and those who said so had a 12.7 times more likelihood of being pregnant compared to those without boyfriends (95% CI: 4.039-39.91; p < 0.001). In addition, 95(95%) adolescents did not use a condom at the last sexual intercourse compared to 85(85%) older mothers (p 0.021). Condom use at last sex was a protective factor against adolescent pregnancy (OR 0.305; 95% CI: 0.106-0.874; p 0.027). Another observation from the study was that75(75%) adolescents compared to 88(88%) older women had received sex education before. Exposure to sex education at some point was significantly associated with (and protective for) adolescent pregnancies (OR: 0.426; 95% CI: 0.200-0.910; p 0.027).

In terms of knowledge about different contraceptives available, adolescents exhibited low levels of knowledge compared to older women. For example, 37(37%) did not seem to have any idea about the combined oral contraceptive pill as opposed to 5(5%) of the older women (p 0.001). Table 1belowsummarizes the knowledge about and use of contraceptives. As can be noted from the table, 95(95%) adolescents had never used a

contraceptive in their lives before versus40(40%) older mothers (*p* 0.001).

Table 1: Summary of knowledge of and use of contraceptives

Variable	Adolescents (N=100) No. (%)	Older women (N=100) No. (%)	*P* - value
Has knowledge of the pill			0.001
Yes	63(63)	95(95)	
No	37(37)	5(5)	
Has knowledge of IUCDs			0.001
Yes	9(9)	34(34)	
No	91(91)	66(66)	
Has knowledge of injectables			0.033
Yes	69(69)	82(82)	
No	31(31)	18(18)	
Has knowledge of implants (Jadelle)			0.001
Yes	12(12)	34(34)	
No	88(88)	66(66)	
Has knowledge of condoms	22(22)	57(57)	0.001
Yes	78(78)	43(43)	
No			
Ever used a contraceptive			0.001
Yes	5(5)	60(60)	
No	95(95)	40(40)	
Planned the pregnancy			0.001
Yes	19(19)	54(54)	
No	81(81)	46(46)	

The study also revealed that 11(11%) adolescents and 7(7%) older mothers had hypertensive disorders in pregnancy. However, this did not show statistical significance (*p* 0.323). All the 3(3%) women who had eclampsia were also adolescents although with no statistical significance too(*p* 0.202). There were 3(1.5%) other women who had severe pre-eclampsia including 2(2%) adolescents and 1(1%) older woman *(p* 0.674). First-degree perineal tears and preterm birth were significantly associated with adolescent pregnancy. An adolescent had a 3.5 times likelihood of having a first-degree perineal tear compared to an older woman (95% CI: 1.830-6.559; $p<0.001$). For going into preterm labour, an adolescent had a 2.6 times likelihood (95% CI: 1.164-5.784; *p* 0.020). Although not statistically significant (*p* 0.132), there were more i.e. 22(22%) adolescents with low birth weight (i.e. birth weight less than 2500g irrespective of gestational age) than older mothers i.e.14(14%).

DISCUSSION

The key findings for this study included a 13.9%scale of adolescent pregnancies withmore adolescents (i.e. 81.8%)being unmarried compared to 18.2% unmarried older women. There were 62% adolescents whohad dropped out of school due to pregnancy compared to 6% of the older mothers who reported having stopped school because of pregnancy.Most i.e. 81% adolescent pregnancies were unplanned compared to 46% among older women. The mean age at marriage for the married adolescents was 16.8 years while the mean age for coitarche was 15.7 years. In addition, 33% adolescents had primary education compared to 16% older women who had primary education and primary education was significantly associated with adolescent pregnancy. Several factors were associated with adolescent pregnancies in the study. These included mean age at coitarche and at marriage, level of education, marital status and having a boyfriend. Others were exposure to sex education and knowledge and use of contraceptives. There were 95%adolescents who had never used a contraceptive in their lives compared to 40%of the older women.

Adolescents were also significantly associated with first degree perineal tears and preterm deliveries. Furthermore, although not statistically significant, 23% of the adolescents had low birth weight babies compared to 12%older women. There were ten caesarean sections documented and meeting the eligibility criteria among the study participants and eight (8) of them were done among adolescents and two (2) among older women. These key results are discussed in detail below.

Adolescent pregnancies at the UTH have reduced from the 20%reported by Kasonde (1997)to the current 13.9%found in this study. It is possible that the multisectoral interventions being advocated for and being implemented by the responsible government arms and cooperating partners are bearing fruits. In this study, adolescents had boyfriends about 5 years older than them on average. This finding is consistent with those by Jewkes et al. (2001)in one South African study who reportedthat partners of pregnant teenagers were significantly older. Unemployment can push adolescents

into coercive relationships with men far older than they are for possible economical benefits. Such relationships would put the adolescents at risk of unplanned and unintended pregnancies. As Marin, Kirby et al. (2006) observe, sexual relationships between adolescents and males three or more years older are unlikely to be voluntary, less likely to involve use of contraceptives and most likely end up in pregnancy as opposed to relationships among adolescents of the same age.

This study revealed a prevalence of early marriages of 75% and an adolescent who got married early was 14.6 times more likely to be pregnant than one who did not get married early. The 75%prevalence of early marriages is more than the 60% reported in Eastern Province of Zambia and much higher than the national prevalence of 42%(Mann, Quigley & Fischer, 2015).As noted from the 2013-2014 ZDHS, women who marry early have a more likelihood of having their first child at a younger age on average. In terms of education, tertiary education was protective for adolescent pregnancy. This finding is consistent with the observation by the WHO (2012) that education is a major protective factor for adolescent pregnancy. With more years of schooling, a woman is likely to focus on advancing her career while postponing pregnancy. In this study, an adolescent with only primary education had a 4.5 times more likelihood of becoming pregnant compared to others with higher education. Out of all the women with history of early sexual debut, the majority i.e. 45(45%) were adolescents compared to 17(17%) older mothers. This is lower than the 62% of the respondents reporting having started sexual activities between the age of 13 and 15 years in a South African study by Mothiba and Maputle (2012).

Having been exposed to some sex education at some point in life was significantly associated with and was protective for adolescent pregnancies (p 0.028). Overall, about 75%of the adolescents reported having received sex education at some point before. This is slightly higher than the findings by Kohler, Manhart & Lafferty (2008) who noted from their study that 66.8% of their female study participants had received sex education before.

According to Blanc et al. (2009), adolescents' success in avoiding getting pregnant often depended on having access to contraceptive information, methods and services. This study revealed that the adolescents were not effective contraceptive users and had limited knowledge. The 5%contraceptive use among adolescents found in this study is far less than that found in one study in the USA where it was noted that 82%of 16-year-olds used contraception at first sex (Finer & Philbin, 2013).

Although not statistically significant, hypertensive disorders were more among the adolescents than older women in this study. This is similar to what was seen from another study by Yasmin, Kumar & Parihar (2014) in India who found a 20% prevalence of hypertensive diseases among teenagers. In addition, out of all the caesarean sections done in this study, 80% were among adolescents. This result, although not statistically significant (p 0.071) was consistent with that of Fouelifack et al. (2014) who reported 83.4% adolescents delivering by caesarean section. Furthermore, the majority (45%) of first-degree perineal tears were among adolescents and the association was statistically significant. Preterm deliveries were also significantly associated with adolescent pregnancies, a finding similar to that by Ganchimeg et al. (2014) who reported risks of preterm delivery (i.e. <37 weeks of gestational age) and low birth weight significantly higher among all the adolescent groups examined. In this study, adolescents had more low birth weight babies than the older women. This finding is similar to those by Ezegwui et al. (2012) who found that 23% of teenagers in their study had low birth weight compared to 10.5% among the controls. However, for this current study, the difference between the two groups was not statistically significant (p 0.132).

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