ORIGINAL RESEARCH ARTICLE

Reproductive Health Characteristics of Young Malawian Women Seeking Post-abortion Care

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Abstract

Abortion is illegal in Malawi except when the pregnancy endangers the mother's life, yet complications of abortion account for the majority of admissions to gynecological wards. This study collected data on all post-abortion care (PAC) cases reporting to all PAC-providing health facilities in Malawi over a 30-day period. Of a total of 2,028 PAC clients, 20.9% were adolescents (age 10-19) and 29.6% were young adults (age 20-24). More than half of adolescents and almost 80% of young adults were married. Less than 5% of adolescents and 22.5% of young adults reported using contraception when they became pregnant. Being unmarried was associated with previous abortion and contraceptive use among young adults. These statistics indicate a high proportion of unwanted pregnancy and lack of access to modern contraception among young women. Programs to increase access to pregnancy prevention services and protect young women from unsafe abortions are greatly needed (*Afr J Reprod Health 2012 (Special Edition); 16[2]: 253-261).*

Résumé

L'avortement est illégal au Malawi sauf quand la grossesse met en péril la vie de la mère, pourtant, les complications de l'avortement sont responsables de la majorité des admissions dans les salles d'hôpitaux réservées aux cas gynécologiques. Cette étude a collecté des données sur les cas de soins d'après avortement (SAA) dont se chargent tous les établissements qui dispensent des SAA au Malawi au cours d'une période de 30 jours. Sur un total de 2028 clients de SAA, 20,9% étaient des adolescentes (âgées de 10 -19 ans) et 29,6% étaient des jeunes adultes (âgées de 20 -24 ans). Plus d'une moitié des adolescentes et presque 80% des jeunes adultes étaient mariées. Moins de 5% des adolescentes et 22% des jeunes adultes ont déclaré qu'elles utilisaient la contraception quand elles sont devenues enceintes. Le fait de ne pas être mariée était lié à l'avortement et l'utilisation ultérieure chez les jeunes adultes. Ces chiffres montrent une proportion élevée de grossesses non voulues et un manque d'accès à la contraception moderne chez les jeunes femmes. Il est très important d'avoir des programmes pour augmenter l'accès aux services de la prévention de la grossesse et de protéger les jeunes femmes contre des avortements dangereux (*Afr J Reprod Health 2012 (Special Edition); 16[2]: 253-261).*

Keywords: young adult, abortion, Malawi/epidemiology

Introduction

Unsafe abortion is a major public health concern for many developing countries. The WHO estimates 21.6 million unsafe abortions occur globally each year and an unsafe abortion rate of 14 deaths per 100,000 births. This is compared to an even higher unsafe abortion rate of 28 for Africa as a whole and 36 for the region of eastern Africa, which includes Malawi. Of these, it was estimated that 99% of unsafe abortions take place in developing countries [1]. Further work on earlier WHO estimates of almost 20 million unsafe abortions found that approximately 2.5 million of the total annual estimate were attributed to adolescents aged 15-19 years and that almost 60%

of unsafe abortions on the African continent were among young women [2 3]. Globally, the risk of death from unsafe abortion is highest in Africa, with an estimated 590 deaths per 100,000 unsafe abortion procedures compared to 14 deaths per 100,000 procedures in the developed world [4]. It is estimated that about 46% of deaths due to unsafe abortion occur in women less than 24 years old [5].

In legally restrictive settings, women turn to unsafe abortion to manage unwanted pregnancy. In Malawi, induced abortion is restricted by law to circumstances where it is performed to preserve the pregnant woman's life. The current MOH Sexual and Reproductive Health and Rights policy (2009) includes PAC, for treatment of either spontaneous miscarriage or induced abortion, as a necessary and legal component of care provided at public health facilities. It also includes a provision that public and private sector health providers will provide or refer women who have unwanted pregnancies to safe abortion services, to the fullest extent of the law. Since 2003, the Reproductive Health Unit of the Malawi Ministry of Health has engaged in a deliberate effort to increase the number of public health facilities that provide PAC, by offering facility upgrades and provider training, in partnership with international non-governmental organizations[6]. This effort has reached all regions of the country, including rural areas and urban centers. Providers are trained in comprehensive PAC, which includes theory and clinical practice, covering through the entire process of working with a woman, from intake to post-abortion counseling and family planning to prevent repeat unwanted pregnancy and abortion.

The maternal mortality rate (MMR) among Malawian women has been estimated at 675 (range 570-780) deaths per 100,000 live births[7]. One of the only studies of maternal mortality in Malawi was conducted in the Queen Elizabeth Central Teaching Hospital in Blantyre, calculating an average MMR of 1027 deaths per 100,000 live births for the period 1999-2000. During the two years under study, over half of all maternal deaths (56.4%) were attributed to women aged 15-24 years, of which 20.6% were adolescents aged 10-19 years. Post-abortion complications accounted for 45% of the main causes of death for adolescents, with 35.7% experiencing sepsis and 9.5% experiencing hemorrhage. Pregnancy among young women was high, indicated by 67% of obstetric patients and 59% of PAC patients under 25 years of age at Queen Elizabeth Hospital [8]. The only study on incomplete abortion in Malawi, conducted in 1994, showed that 68% of gynecological admissions at Queen Elizabeth Central Teaching Hospital in Blantyre during the study period were due to abortion complications. The mean age of women was 24.4 years, with 21.2% less than 20 years and 38.5% between 20-24 years[9]. Both studies indicate that young Malawian women are resorting to unsafe abortion and then accessing post-abortion care. As both studies occurred some time ago and only focused on one hospital, the need for updated information through-out the country, and specifically focused on young women, is critical. This study is the first to determine the circumstances surrounding young Malawian women seeking PAC in a nationally representative sample of PAC-providing facilities in Malawi.

Methods

The analyses described here were part of a larger study on the incidence of abortion complications in Malawi.

Sampling and weighting

The Malawi MOH is the largest provider of formal health services in the country. In addition, private and non-governmental organizations (NGO) facilities, such as Christian Health Association of Malawi and Banja La Mtsogolo, also provide a substantial proportion of reproductive health care in Malawi. A stratified random-sampling plan was used to select a nationally representative sample of health facilities that provided PAC. A full list of facilities that could provide gynecologic or obstetric care was stratified by region (North, Central, South), type (public, private, NGO) and level (primary, secondary, tertiary). All public, NGO and private hospitals and public and NGO health facilities that specialized in reproductive and maternal health were included in the study and assigned a sampling fraction of 1.0. Private clinics were selected for inclusion in the study with a

sampling fraction of 0.33. A total of 166 facilities that provided PAC in Malawi were included in the final sample: 93 public facilities, 65 NGO facilities and 8 private facilities. There was a 97% participation rate.

Data collection

Prospective morbidity data was collected on all PAC patients at each health facility in the study. PAC providers at each study facility were trained in data collection, and the providers filled out prospective morbidity data for each woman presenting at the facility for PAC during the 30-day data capture period. A PAC patient was defined as any woman presenting with a diagnosis of incomplete, inevitable, missed, or complete abortion, and does not include women seeking induced services. Though the providers were primarily located in obstetrics and gynecology wards, cases from other departments such as the intensive care unit or female surgical ward were reviewed to assess whether the diagnosis or death was attributable to an abortion-related illness or injury and therefore included. The prospective morbidity data included demographic information, reproductive history, self-reported induction attempt and clinical care data. Data was collected between August and September, 2009.

Data analysis

Analyses are presented by three age groups: adolescents (age 10-19), young adults (age 20-24), and adults (age 25+). Adjusted chi-square tests were used to test differences in distribution of outcome variables among age groups for categorical variables. Adjusted chi-square tests were also used for ordinal variables as the Kruskal Wallis test cannot be used in combination with the sample weights in Stata. Multivariate logistic regression was used to assess demographic risk factors associated with reproductive health outcomes related to unsafe abortion. Statistical significance was defined as $p<0.05$. Unweighted counts and weighted proportions are reported. For all variables included in this analysis, except for the provision of post-abortion contraception, the non-response rate was less than 2%; analyses excluded cases with missing data. Data was analyzed using Stata version 11. The data collected for this study captured routine clinical care information of patients during their procedure, similar to data captured in medical records, and therefore verbal consent was not obtained. This study received IRB approval from the Malawi National Health Sciences Research Committee.

Results

A total of 2,076 women sought PAC at health facilities in Malawi during the 30-day data collection period. This analysis is restricted to the 2,028 women for whom age data was available (age range 12-51 years, overall mean 25.3 years; mean of adolescents 17.7 years; mean of young adults 21.9 years; mean of adults 30.9 years). Half of the women seeking PAC were under the age of 25, and 20.8% were adolescents, the youngest of whom was 12 years old. Most women were from rural areas (65.9%), and there was significant variation in the age of PAC patients by region. Most young people were from the South (45.2%) while most adults were from the Central region (48.1%) ($p<0.05$). Eighty-one percent of women in the sample were currently married, including 57.8% of adolescents and 79.4% of young adults. Among women accessing PAC, adolescents were four times (OR: 4.1, 95% CI 2.0-8.4) more likely (30.4%), compared to only 4.6% of adolescents and 22.5% of young adults. In the full sample, 39.5% of and young adults were 1.8 (95%CI 1.6-2.1) times more likely to have any education compared to adults. Most adolescent women reported primary education (64.6%) (Table1).

In this sample, reported contraceptive use was women had four or more pregnancies. Stratifying the number of pregnancies by age, we find the majority (75.7%) of adolescents had only one pregnancy (the one for which PAC services were sought). A different pattern emerges for young adults with 15.1% reporting four or more pregnancies and only 1.7% reporting having four or more children. Only 9.6% of adolescents had a child, but over one third of young adults (67.3%) had one or more children. Report of a previous pregnancy loss was common, with 11.6% of

Table 1: Demographic and reproductive characteristics of women seeking post-abortion care at "health facilities in Malawi by age group, 2009"?

	Total N=2,028		Adolescents n=424		Young adults n=600		Adults n=1,004	
	n	(%)	n	(%)	n	(%)	n	(%)
Residence*								
Urban	658	(34.1)	129	(31.8)	230	(39.2)	299	(32.1)
Rural	1351	(65.9)	289	(68.2)	365	(60.8)	697	(67.9)
Region*								
North	327	(15.7)	63	(14.6)	103	(16.9)	161	(15.4)
Central	886	(43.8)	173	(40.2)	234	(39.1)	479	(48.1)
South	815	(40.5)	188	(45.2)	263	(44.0)	364	(36.4)
Marital status*								
Currently married	1649	(81.2)	249	(57.8)	476	(79.4)	924	(92.1)
Currently unmarried	375	(18.8)	175	(42.2)	122	(20.6)	78	(7.9)
Education*								
None	251	(12.2)	20	(4.7)	43	(7.1)	188	(18.3)
Primary	1124	(55.1)	269	(64.6)	320	(53.1)	535	(52.2)
Secondary or higher	629	(32.7)	130	(30.7)	231	(39.8)	268	(29.5)
Religion								
Catholic	470	(23.4)	97	(23.4)	142	(24.4)	231	(22.8)
Protestant	1255	(62.2)	266	(62.6)	364	(60.5)	625	(63.0)
Muslim	209	(10.2)	47	(10.8)	69	(11.4)	93	(9.3)
None/Other	88	(4.2)	14	(3.2)	23	(3.8)	51	(4.9)
Reported using modern contraceptive at time of pregnancy*	462	(22.7)	20	(4.6)	134	(22.5)	308	(30.4)
Total number of pregnancies*								
1	496	(24.5)	318	(75.7)	142	(24.3)	36	(3.5)
2	361	(18.0)	84	(19.8)	205	(34.3)	72	(7.7)
3	349	(18.0)	16	(4.2)	159	(26.3)	174	(18.8)
4+	812	(39.5)	1	(0.3)	92	(15.1)	719	(70.1)
Total number of children*								
None	642	(32.3)	381	(90.4)	190	(32.7)	71	(7.5)
1	356	(17.8)	34	(8.0)	216	(36.9)	106	(10.8)
2	362	(18.9)	5	(1.6)	139	(23.3)	218	(23.5)
3	259	(12.8)	0	(0)	32	(5.3)	227	(22.5)
4+	373	(18.3)	0	(0)	10	(1.7)	363	(35.8)
Previous miscarriage*	408	(20.7)	49	(11.6)	100	(17.0)	259	(26.7)
Previous abortion	57	(3.0)	5	(1.2)	20	(3.3)	32	(3.6)

*$p<0.05$

adolescents and 17.0% of young adults reporting a previous miscarriage. Report of a previous abortion was less common (1.2% of adolescents and 3.3% of young adults) (Table 1). However, report of a previous abortion was associated with being unmarried among the young adults ($p<0.05$)

(results not shown).

The majority of women in the study received PAC at district-level hospitals (58.6% of adolescents and 51.4% of young adults). Half of the women accessed care in public hospitals, and less than 5% of women received care from private hospitals. One notable difference in the facility type by age group was seen with NGO services. Adolescents were more likely to seek care at NGO hospitals (21.7%) and less likely to seek care at NGO health clinics (8.8%) than the other age groups.

There were no statistically significant differences in the quality of care for PAC patients between age groups. Most women received some type of pain management during their procedure (90%), stayed in the health facility less than 24 hours (56%) and received post abortion family planning (61%).

While about one in five women of all ages presenting for PAC had severe complications, some characteristics of the pregnancy for which care was being sought were significantly different between the three age groups, most notably reported interference with the pregnancy (Table 2). Women under 25 years reported interference more often than adult women (15.8% adolescents, 6.1% of young adults, 6.4% of adults, $p<0.05$). Unmarried women in all three age groups were more likely to report interference with the current pregnancy than married women. About one third (34.1%) of unmarried adolescents reported interference with the pregnancy compared to only12.8% of un-married young adults and one of five (19.6%) unmarried adults ($p<0.05$) (Figure 1). Among the youngest women, those who were unmarried were 11.0 (95%CI 3.07-39.4) times more likely to report interference compared to the youngest married women. Unmarried 20-24 year olds were 7.8 (95%CI 4.7-13.2) times more likely to report interference than married women the same age, respectively. Controlling for age residence, region, education and religion, unmarried women were 6.8 (95%CI 4.7-9.8) times more likely to, report interference than married women (Table 3). Physicians reported 3.51(95%CI 1.91-6.45) times more mechanical injuries to the cervix or uterus for adolescent PAC patients than

Table 2: Characteristics of pregnancy for which post-abortion care is being "sought by age group, Malawi, 2009"?

	Total N=2,028		Adolescents n=424		Young adults n=600		Adults n=1,004	
	n	(%)	n	(%)	n	(%)	n	(%)
Gestational age								
First trimester	1364	(67.5)	286	(67.8)	406	(67.0)	672	(67.7)
Second trimester	662	(32.5)	138	(32.2)	194	(33.0)	330	(32.3)
Clinical stage of abortion								
Inevitable abortion	143	(7.1)	29	(6.8)	38	(6.8)	76	(7.4)
Incomplete abortions	1766	(87.1)	370	(88.2)	525	(88.3)	871	(86.8)
Missed abortion	16	(0.9)	3	(0.8)	4	(0.7)	9	(1.1)
Complete abortion	82	(4.1)	18	(4.3)	25	(4.3)	39	(4.0)
Woman reports interference with pregnancy*	167	(8.3)	64	(15.8)	37	(6.1)	66	(6.4)
Severe complications	411	(20.3)	96	(23.7)	113	(18.6)	202	(19.8)
Mechanical injury to the cervix or uterus*	111	(5.5)	36	(9.3)	32	(5.2)	43	(4.1)
Sepsis	273	(13.5)	61	(15.1)	77	(12.6)	135	(13.3)
Type of care†								
Outpatient	1117	(56.4)	242	(58.1)	336	(56.9)	539	(55.5)
Inpatient	890	(43.6)	178	(41.9)	259	(43.1)	453	(44.5)

*$p<0.05$

† Outpatient care is less than 24 hours while inpatient care is >24 hours.

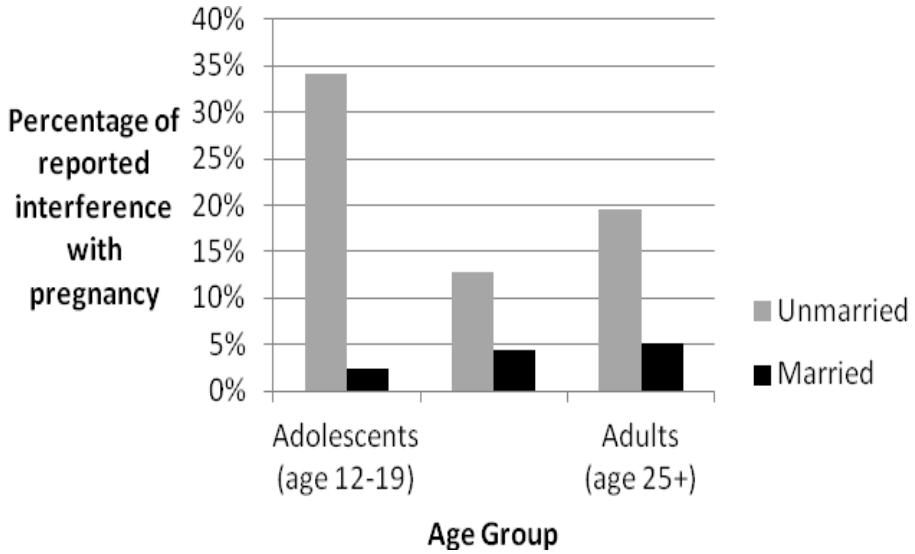

Figure 1: Woman's report of interference with the pregnancy by age group and marital status

Table 3: Odds ratios (95% Confidence Intervals) from multivariate logistic regression among women seeking post abortion care at health facilities in Malawi, 2009mechanical injuries to the cervix or uterus for

	Outcome: Interference with the pregnancy	
Marital status		
Currently married	1.00	
Currently unmarried	6.77	(4.71-9.75)
Age category		
Adolescent	0.65	(0.41-1.04)
Young Adult	1.26	(0.86-1.87)
Adult	1.00	
Residence		
Rural	1.00	
Urban	1.03	(0.68-1.57)
Region		
North	2.38	(1.46-3.88)
Central	1.45	(0.97-2.18)
South	1.00	
Education		
None	1.00	
Primary	0.90	(0.49-1.67)
Secondary or higher	0.97	(0.47-1.93)
Religion		
Catholic	1.00	
Muslim	1.92	(1.13-3.24)
Other	1.61	(0.99-2.60)

among adult women, which is more likely to indicate an induced abortion than a spontaneous miscarriage.

In addition to the influence marital status had on reported interference, marital status had an impact on contraceptive use at the time of the current pregnancy, especially among young adults (Figure 2). Married young adults were 2.8 (95%CI 1.7-4.7) times more likely to report contraceptive use at the time of pregnancy than unmarried young adults. Report of a previous abortion was associated with being unmarried among the young adults (p-value<0.05) (results not shown).

Discussion

While studies have found that young, urban, unmarried women seek abortion, [10] [11] this assumption is not completely realized in Malawi. While half of all women seeking PAC were less than 25 years of age, two thirds were from rural areas, and over half of adolescents and three-fourths of young adults were married. Of those women less than 25 years, the youngest women comprised a small proportion of those seeking PAC. Malawian adolescents aged 10-19 experienced abortion comparable to school-attending Kenyan females aged 10-19 years (7.4% vs. 3.4%) [12]. Young women in Malawi are experiencing their sexual debut before marriage, as

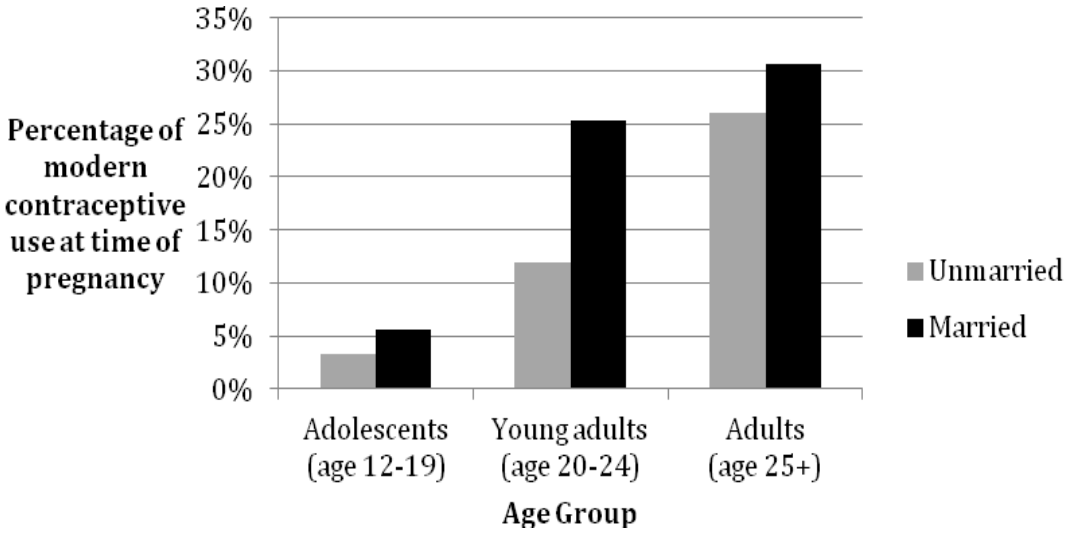

Figure 2: Use of contraceptive at time of pregnancy "by age group and marital status, Malawi, 2009"?

shown by a median age at first intercourse among 20-24 year olds of 17.4 years, and the median age of first marriage among the same age group is 18 years [7].

Young women in Malawi are experiencing early sexual debut due to many factors, including lack of parental support and supervision, poverty and lack of school attendance. National statistics indicate that only 46% of young women aged 10-14 live with both parents. Twenty three percent live with one parent and 31% live with neither parent [13]. Due to poverty and lack of parental support, young women are unable to pay for basic needs or school fees, creating barriers to staying in school. National statistics indicate that while almost 90% of young women aged 10-14 are attending school, this number drops to only 46.8% of those aged 15-19 years[13]. A study of young women aged 15-17 years across the world found that married and unmarried young women who were currently not attending school were more likely to report having had sex, no contraceptive use and having become pregnant than unmarried school-attending young women[11]. Keeping young women in school in Malawi may lead to delayed sexual debut and less exposure to unwanted pregnancy.

Knowledge of contraception is almost universal in Malawi, but does not translate into current use. According to the 2010 MDHS, almost 98% of all women reported knowledge of at least one modern contraceptive method, with 98% and 99.9% knowledge of any modern method reported among women aged 15-19 and 20-24 years, respectively. In contrast to being able to name a contraceptive method, only 19.5% of 15-19 year olds and 67.1% of 20-24 year olds reported ever using a modern contraceptive method. About one third (30%) of sexually active unmarried women aged 15-19 years reported current use of modern contraception, compared to 50.7% of those aged 20-24 years. In addition, 21.6% of currently married women reported an unmet need for family planning [7 14]. In this study, use of contraception for the current pregnancy was significantly different among age groups of women, with all adolescents reporting use of less than 20%. These results are lower than those found in the DHS, and may indicate women at risk for an unwanted pregnancy due to non-use of contraceptives access PAC services.

This study indicates that young women are dealing with decisions surrounding unwanted pregnancy, regardless of marital status. The DHS found that 46.3% of those women who were unmarried reported current use of modern contraception[14]. This study found much lower use, less than 7% of unmarried adolescents and young adults reported contraception use at the time of pregnancy. These contrasting findings could have multiple meanings, indicating that youth may not be using contraception correctly leading to

unwanted pregnancy, and/or that those women who are not using contraception are accessing PAC services [15 16]. Knowledge about efficacious use of contraceptive methods is limited among youth [15]. The current school curriculum includes the topic of life skills, which covers sexual and reproductive health topics. However, quality of instruction varies throughout the country, leading to young women not having the information they need to protect themselves.

There are many barriers to contraception use among young women. Contraceptive options are typically only available at health facilities and it is known that a low percentage of young people access sexual and reproductive health services due to stigmatizing attitudes by health care workers [15 16]. These barriers mean that young people may be unable to access contraceptives to protect themselves from STIs and unplanned and unwanted pregnancies. This is further compounded by limited post abortion family planning provision, as shown with only 6 of 10 women receiving post abortion family planning in this study. Another study of health worker attitudes towards adolescent PAC patients in Malawi found that few left
the facility with comprehensive information or a contraceptive method [16]. These findings indicate lack of access to and knowledge about the benefits of modern contraception. As our findings showed that young women received post abortion family planning as often as adult women, it seems that access to family planning for young women could be increased by focusing on expanding access among young PAC patients.

High numbers of adolescents reported multiple pregnancies coupled with reported previous loss of pregnancy and prior abortion. These findings were consistent with findings among Nigerian youth who also showed an association between the number of pregnancies and ever having had an abortion[10]. Other studies have shown that young women may decide to terminate unwanted pregnancies for a variety of reasons, including the desire to continue schooling, fear of denial of the pregnancy from the partner, fear of community stigma and/or fear of parental attitudes [10 17 18]. Community sensitization and mobilization working together to change community attitudes related to adolescent and youth sexuality could help increase young women's" access to services.

Over two-thirds of women, including young women, presented for PAC in their first trimester, a finding mirrored in other studies
of Malawian adolescents[9 16]. This finding may indicate that women, including young women, know the signs of pregnancy and are able to access care early in their pregnancy. Obtaining care earlier in the pregnancy leads to fewer complications and in turn decreases maternal morbidity and mortality. Further research is needed to identify cultural, social and financial barriers that lead to later care and higher risk of morbidity and mortality.

This work would be strengthened if more information was obtained from private PAC providers, to determine if young women access private services more frequently to avoid community-level stigma they could face if seen obtaining PAC care in a public facility. In addition, specific information surrounding the social context leading young women to unwanted pregnancies and seeking PAC is needed to provide context to the specific needs of youth and inform programmatic and policy recommendations. Since this data was collected from PAC patients presenting for care in a country with a legally restrictive setting, it may not be generalizable to young women in other countries. However, it is one of the only studies to investigate adolescent PAC patients. This is the first study to specifically detail the demographic and reproductive health characteristics, and clinical outcomes, of young women seeking PAC care in Malawi. The nationally representative sample of PAC providing facilities throughout Malawi support generalization of the findings to all young women in these age groups throughout the country.

Conclusions

This study indicates several venues for service delivery improvement. All women, and especially young women, need increased access to contraceptive services that include a range of options and adequate information, in order to increase efficacy and decrease the number of unwanted pregnancies. MOH efforts to expand

contraceptive choices to women that include long and short term methods need to be supported and expanded to include rural catchment areas. In addition, counseling is needed to determine which method best fits each woman during the various stages of her reproductive life and how to use the chosen method effectively. PAC service delivery improvements can be made by evaluating and equipping facilities to meet the needs of youth who access them. During training of PAC providers, activities that address reduction of stigma towards young women accessing PAC and family planning services need to be highlighted.

Overall, these findings may indicate that young women's sexuality is stigmatized, impeding their access to reproductive health education and services to prevent unwanted pregnancy. Young women's marital status appears to play an important role in contraception use, and ways to increase access to family planning knowledge and services for unmarried adolescents should be explored. Further research is needed to understand how to increase access to pregnancy prevention services and what is needed to protect these women from unwanted pregnancies and subsequent unsafe abortions.

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