

### Profile of Teenage Pregnancy in Hadramout , Yemen

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#### Abstract

##### Objective:

A cross-sectional study was designed to collect socio-demographic and obstetric data about female teenagers who have pregnancy and visiting primary health care centers for antenatal care.

##### Subjects and methods:

Data were collected by a trained 60 medical students of the 6<sup>th</sup> level in Hadramout University during their post in primary health care centers from 20 May – 10 June 2008. A convenience sample of 237 teenagers who were attending the 12 PHC centers for antenatal care checking constituted the study subjects.

##### Results:

Fifty-one out of 237 (21.5%) pregnant women were of age 17 years or less. Most of them were from rural areas with statistically significant difference in both age groups (p-value <0.002), they were housewives (232/237 97.8%) and their husband's mostly had non-professional jobs with a significant difference between both age groups (p-value <0.005).

A high prevalence of anemia in teenage pregnant women was reported (76.7% of them had Hb level less than 11 g/dl) but there were no significant difference between mean Hb level in those at age of 17 years or less (9.9 SD=1) and those at age >17-<20 years (10.1 SD=1.18) p-value >0.05

About one-third of pregnant teenagers were second or multigravida (81/237 pregnant women 34.2%) but only 66 of them were delivered before. The majority of second/multigravida were delivered normally (57/66 pregnant women 86.4%) while only 31 of them (47%) gets their births in a health facility where LSCS was done for 9 pregnant women.

The outcome of the pregnancy in teenage multigravida are 67 children; three of them were stillbirth and other 6 babies died within the first week of their life indicating the total children died during the perinatal period as 9 children ; so the perinatal mortality rate was very high in teenagers (9/67\*1000 = 134/1000 births).

##### Conclusions:

Teenage pregnancy is common and accepted in Hadramout in Yemen; the main consequences are a high prevalence of anemia and high perinatal mortality rate.

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## Introduction:

Teenage pregnancy is a complex phenomenon associated with various economic, educational, and behavioral factors. It is common in many developed and developing countries but with a variation in the cultural context of the conception. In Western countries; it was due to sexual activity of teenagers out of marriage and partly due to drug abuse but in Islamic countries, it remains well accepted, particularly within the context of marriage. Whatever the factors behind teenage pregnancy; the question raised here is it a risk situation or not?

All studies gave pregnancy in younger females either term of teenage pregnancy or adolescent pregnancy but usually all of them means pregnancy in females of less than 20 years of age. Although many studies considered teenage pregnancy to be of high-risk situation in a large part of the world but recent studies have suggested that teenage pregnancies are not hazardous as thought to be earlier<sup>1</sup>. Other studies reported that only younger teenagers (17 years or less of age) were most vulnerable to adverse obstetric and neonatal outcomes<sup>2</sup> while others indicated that pregnant teenagers are not a high-risk group if good prenatal care is provided<sup>3</sup>.

In Yemen, proportion of married teenagers among all married women was declined from 13.7% in 2005<sup>4</sup> to 7% in 2013<sup>5</sup> while 17% of teenagers are married in 2013<sup>5</sup>, other health indicators are high maternal mortality rate (365/100,000 live births) and high infant mortality rate (75/100 live births)<sup>6</sup>. Perinatal mortality and other obstetric and socio-demographic characteristics of pregnant teenagers are not well documented.

Hadramout governorate is one of the largest governorates of eastern Yemen with about 1,200,000 population, and about more than 600,000 people are living in 12 coastal districts. Health services are provided by two main referral public hospitals, two private hospi-

tals, 8 district hospitals and a network of primary health care centers and units (10 health centers and 148 PHC units). The private health sector also provides health services through 5 hospitals, 9 polyclinics and 42 outpatient clinics and private clinics. Only the public health facilities provide antenatal care services in urban and rural districts<sup>7</sup>.

This study highlighted major unmet reproductive health needs of adolescents in Hadramout coastal districts through collecting data about the profile of pregnant teenagers who attending antenatal care clinics.

## Subjects and Methods

A cross-sectional study was designed to collect data about female teenagers who were pregnant and were visiting primary health care centers for antenatal checking. The total sample size was 176 pregnant women of less than 20 years at the time of interview (age was determined from the civil personal card). The sample size was calculated by EPI INFO version 6.2 (2002) under the assumption of 8% of pregnant women in Yemen are under 20 years of 95% confidence level and 4% precision. We added 20% to avoid none-response so sample size will be at least 212 pregnant women. Data were collected by a trained 60 medical students of the 6<sup>th</sup> level in Hadramout University during their post in primary health care centers from 20 May – 10 June 2008. A sample of teenagers attending the 12 PHC centers for antenatal care checking constituted the study subjects. Medical students (30 males and 30 females) were divided into 12 groups every group stays for 3 weeks in one PHC centers and every student interview at least 5 pregnant teenagers during the available days of antenatal care services. A well-structured questionnaire was used as a tool of data collection; it constitutes of 21 questions distributed into four sections: section one for socio-demographic profile (age, educational level, residence maternal and husband occupation), section 2 of obstetric profile (gravida, history of abortion or previous delivery, edema, blood pressure, hemoglobin level,

blood group and presence of headache), the third sections questioned only those had previous delivery only; it constitutes 3 questions about type, place of delivery and who attend their birth. Section 4 also directed to those who previously delivered but regarding the status of the delivered baby at birth and within the first week of life to estimate the perinatal mortality.

Data were coded and checked and entered into the personal computer by using SPSS version 10 program. Statistical methods used were frequency, percentages, mean and standard deviation. For inferential statistics a chi-square test and student t-test were used; a 0.05 was used as a level of significance.

Ethical consideration: The study was approved by Hadramout University College of Medicine (HUCOM) in Yemen. Data and aims of the study were explained to the eligible teenagers; those agreed to participate were included in the study with verbal consent.

### Results:

A total of 237 pregnant women of less than 20 years were interviewed in 12 PHC centers from 6 districts in Hadramout governorate. The mean age of the study subjects was 18.2 years (SD=1 year, range 14 – 19 years). The mean age at first marriage was 16.7 years (SD = 1.5 years, range 13 – 19 years).

Fifty-one out of 237 (21.5%) pregnant women were of age 17 years or less. Most of them were from rural areas with statistically significant difference in both age groups (p-value <0.002), they were housewives (232/237 97.8%) and their husband's mostly had non-professional jobs with a significant difference between both age groups (p-value <0.005).

About 12.7% of teenagers complained of a headache during pregnancy and 11.8% had low limb edema but only 3.4% were hypertensive.

Blood group profiles of the study teenagers indicated that most of them have blood group O+ (54.4%)

then group A+(26.2%) and B+ (14.3%). A high prevalence of anemia in teenager pregnant women was reported (76.7% of them had Hb level less than 11 g/dl) but there was no significant difference between mean Hb level in those at age of 17 years or less (9.9 SD=1) and those at age >17-<20 years (10.1 SD=1.18) p-value >0.05

About one-third of pregnant teenagers were second or multigravida (81/237 pregnant women 34.2%) but only 66 of them have delivered before. The majority of second/multigravida were delivered normally (57 pregnant women 86.4%) while only 31 of them (47%) had their deliveries in a health facility where LSCS was done for 9 pregnant women. At home, 42.3% of deliveries were attended by relatives or traditional daia and only 34.6% of births were attended by midwives. The outcome of the pregnancy in teenage multigravida are 67 children; three of them were stillbirth and other 6 babies died within the first week of their life indicating the total children died during the perinatal period as 9 children ; so the perinatal mortality rate was very high in teenagers ( $9/67 \times 1000 = 134/1000$  births).

### Discussion:

Marriage at younger ages is considered as one of the determinant of early fertility, some demographers in India have estimated that if marriages were postponed from the age of 16 to 20 years, the number of births would decrease by 20 to 30 per-cent<sup>8</sup>. In this study, the mean age at first marriage was 16.7 years (SD = 1.5 years, range 13 – 19 years) while Maki in 2001 reported that the mean age of marriage of the pregnant women who delivered in four hospitals in Yemen was 22.38 years but Maki studied the whole age spectrum from 14 – 45 years which is different from this study which considered only recent teenager<sup>9</sup>. In Yemen, the 1994 Personal Status Law has a minimum marriage age of 15 years but amendments in 1999 gave authority to a girl's guardian to decide her readiness for marriage. The National Women's Committee (NWC) has

**Table 1:** Socio-demographic and obstetric profile of pregnant teenagers regarding two age groups ( $\leq 17$  years versus  $> 17$  years)

characteristics		( $\leq 17$ years)	$< 17$ years	Total (%)	$\chi^2$	P-value
Socio-demographic profile	Residence:					
	- Urban	24	135	159	11.8	0.001*
	- Rural	27	51	78		
	- Total	51	186	237		
	Education:	18				
	- Illiterate	33	47	65		
	- Educated	0	138	171	2.24	0.326
	- Highly educated		1	1		
	- Total	51				
			186	237		
	Mother's job:					
	- Housewife	48	184	232	4.47	0.068
	- Student	3	2	5		
	- Total	51	186	237		
	Husband's job:					
	- Non-employed	5	12	17		
	- Non-professional	37	128	165	14.7	0.002*
	- Professional	6	46	52		
	- Student	3	0	3		
	- Total	51	186	237		
Obstetric profile	Lower limb edema:					
	- Yes	9	19	28	2.12	0.115
	- No	42	167	209		
	- Total	51	186	237		
	Headache:					
	- Yes	6	24	30	0.04	0.522
	- No	45	162	207		
	- Total	51	186	237		
	Hypertension:					
	- Hypertensive	2	6	8		
	- Normotensive	49	180	229	0.06	0.543
	- Total	51	186	237		
	Anemia:					
	- Anemic	41	151	178	0.02	0.898
	- No Anemia	10	35	59		
	- Total	51	186	237		
	History of abortion:					
	- Yes	4	24	28	0.98	0.233
	- No	47	162	109		
	- Total	51	186	237		
	Previous delivery:					
	- Yes	8	58	66	4.8	0.019*
	- No	43	128	171		
	- Total	51	186	237		

Table 2: Blood group profile of pregnant teenagers

Blood group	No of teenagers	%
O+	129	54.40%
A+	62	26.20%
B+	34	14.30%
A-	4	1.70%
O-	4	1.70%
AB+	3	1.30%
B-	1	0.40%
Total	237	100%

Table 3: Pattern of delivery of 66 multigravida teenagers

Characteristic	No of teenagers	%
Type of delivery:		
- Normal delivery	57	86.40%
- LSCS	9	13.60%
- Total	66	100%
Place of delivery:		
- At home	26	39.40%
- At health facility	31	47%
- Missing	9	13.60%
- Total	66	100%
Birth attendants in home delivery (n= 26)		
- Relatives		
- Midwives	11	42.30%
- Traditional daia	9	34.60%
- Others	5	19.20%
- Total	1	3.80%
	26	100%

called for a minimum legal age for marriage of 18 in order to end child marriage, which is prevalent in rural areas of Yemen<sup>10</sup>. A significant difference was found in this study, since the subjects here were very young teenagers who further were from rural areas. And only very low proportion of teenage pregnant women have high degree of education (1/ 237). This is the case even in developed countries according to the international survey, by the Alan Guttmacher Institute - a non-profit making organization for reproductive health analysis in New York, found that women who had had a higher level of education were more likely to delay marriage and childbearing<sup>11</sup>.

The proportion of teenagers aged 17 years or less (21%) in this study was lower than the proportion found by Kumar (34%)<sup>2</sup>, and lower than in Thailand where Approximately one-third of the teenage cohort (31.2%) were 17 years of age or less (26.1% aged 16-17 years, and 5.1% aged 14-15 years)<sup>12</sup>.

The proportion of primigravida (66%) in this study was about the same with the proportion found by Mahfouz in Ibha in Saudia Arabia (61%)<sup>(3)</sup> and 68% in another area of Saudi Arabia<sup>13</sup>

A higher proportion of hypertension was found in this study (3.4%) than the proportion found by Mahfouz in Saudia Arabia (1.1%-1.6 % for primi and multi gavial respectively). Very high proportion of teenagers in this study were found to be anemic (76%) similar to the high proportion found by Kumar (63%), but higher than in Mahfouz study in Saudi teenagers (9.6%-12.9% for primi and multi gavial respectively). It was considered that teenagers are at significantly higher risk of anaemia<sup>1</sup> but the socio-economic status of our target group and India study are the same comparing with the rich economic situation of people in Saudia Arabia. Also, it reported the high prevalence of anemia in Yemeni pregnant women for all age groups<sup>14</sup>.

The proportion of normal deliveries was higher (86%) in

this study than the proportion found by Kumar (65%)<sup>(2)</sup> The proportion of caesarean sections was lower in this study than that found by Kumar (32%)<sup>(3)</sup> but higher than that found by Ziadeh<sup>15</sup>. No significant differences in the mode of delivery between younger and older pregnant women were reported by another study<sup>(1)</sup>, in Latin America it was reported that all adolescent mothers had lower risks for cesarean delivery<sup>16</sup> also, no significant difference was reported by Akinola SE<sup>13</sup> in 2001 between the teenagers ages 13 to 19 years old and the control group regarding normal vaginal delivery, lower segment cesarean, ventouse delivery, number of anemic patients. In North Namibia in Africa where ANC succeeds in reaching pregnant teenagers, teenage pregnancies were not at an increased risk for obstetric complications<sup>17</sup>.

The prevalence of abortion among the study population was as twice as that found in Mahfouz study (6.1%). It was reported in Brazil that in 2003; abortions in teenagers constituted about 21% of abortions in women of all age groups<sup>18</sup>.

Profile of blood groups in teenagers in this study indicated group O+ is most frequent while AB+ group and B- group are the least frequent blood groups (1.3% and 0.4% respectively). Pregnant mother with blood group AB being a risk factor for pre-eclampsia<sup>19</sup>.

The antenatal and delivery care services in Yemen are poor; this situation reflected on the perinatal outcome especially perinatal mortality. WHO estimated that perinatal mortality rate in Yemen is about 70/1000<sup>20</sup>; Bana-jah et al reported in their hospital based study in Sana'a that perinatal mortality rate among hospitalized births (1998-2001) was 87.4/1000births, the same figures was reported in a community-based study in Mukalla city at East of Yemen in 2005 (86/1000 births)<sup>4</sup> also it was estimated that the true rate may be higher than this figure<sup>21</sup> which is consistent with the high perinatal mortality rate that was found in this study.



Limitation of the study: The study was limited to teenagers who attend antenatal care, while others who did not attend have no opportunity to participate, but the high percentage of pregnant women attend antenatal care (94%) is a factor encouraging us to do the study in antenatal care settings. Other limitation is that the sample was not randomly selected (Convenience sample) limited the generalization of the results to all teenagers, random selection need a well organized recording system which is not applicable in the study setting.

### Conclusions:

Teenage pregnancy is common and accepted in Hadramout in Yemen; the main consequences are - high prevalence of anemia and high perinatal mortality rate. Irrespective of teenage pregnancy is the risk group or not, the most important issue is considering the improvement of accessibility and quality of prenatal care and enhancing the community awareness to avoid early marriage of females before 17 years of age

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