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An 8 Years Analysis of Pregnancies and Births among Teenagers in a University Hospital in North-Eastern Romania

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Demetra-Gabriela SOCOLOV³

Abstract

The aim of the study is to analyze teenage pregnancy (births and abortions) between 2007 and 2014. Pregnancy data regarding minor females were obtained from the statistical department of the hospital. In total, data for 8 years referring to 1,291 teenage mothers were included in the research. Additional analysis was performed. Over the years considered, analysis has shown the number of births increases with increasing age. We identified a relatively constant number of births among adolescents and a constantly decreasing number of abortions at all ages, considering both rural and urban subjects. A number of 64 teenagers have been registered with 2 births under the age of 18; 35 of the patients become mothers for the second time in the very next year. The most important variable in this case is the environment, the number of cases from rural areas being 5 times higher than that in urban areas. The higher rate of pregnancy among teenagers exhibits a constant rate over the years. The decreasing number of abortions could be related to the constantly promoted programs in schools and colleges in the last years throughout the country. The increasing rate of births in rural areas could be related to socioeconomic aspects and the lower rate of access to education in this area.

Keywords: teenage, pregnancy, abortion, caesarean, natural birth.

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Introduction

Every year, nearly 15 million girls aged under 19 give birth in the world, to 10% of the babies born worldwide. This has an important impact on health for both teenage mother and newborn (risk of death related to pregnancy problems at this age, the rate of death among adolescents mothers being 4 times higher compared to mothers over 20 years old) (Kuo, 2015). Complications during pregnancy and childbirth are the second cause of death for 15-19-year-old girls globally (WHO, 2014).

Romania has a great rate of pregnancies among teenagers. Statistical data provided by WHO in 2014 showed that Romania holds the second position in teenage pregnancies in the EU, with 8,500 teen births on average per year and a teen birth rate of 39.4 ‰ (WHO, 2011).

Despite these higher rates of pregnancy among Romanian teenagers, not many studies have focused on this problem in the last years (Kirkham, 2013; Suciu *et al.*, 2014; Rada, 2014; Diaconescu *et al.*, 2015). Some other international studies present information about teenage pregnancies in Romania through the statistical data referring to different countries that face this phenomenon (Part *et al.*, 2013; Gissler *et al.*, 2012).

Early pregnancy is related to several factors: socioeconomic level, school attachment, type of family, drug consumption, behavioral problems, one's own mother was a teenage mother, parental control, valorization of family rules and early initiation (having the first sexual contact before the age of 15). Parental support is a strategic tool by which parents may gain knowledge of adolescent females' lives, have access to their lifestyle details and thus reduce early initiation risk (Madkour *et al.*, 2012).

Medical, social and psychological risks associated with an early pregnancy refer to both mother and child: interruption of studies, financial difficulties (leading to improper living conditions, inadequate nutrition for both of them, health-related problems with low access to medical services and treatments), difficulty of integration in society, low self-esteem, psychological problems like depression and anxiety and higher rate of risky behaviors like prostitution (Leppalahti *et al.*, 2013; Sedgh *et al.*, 2015; Finer & Philbin, 2013; Tocce *et al.*, 2012; Cook & Cameron, 2015; Viner *et al.*, 2012).

Material and methods

Statistical data were obtained from the statistical department of a university maternity in North-Eastern Romania. The data refer to the period 2007-2014 and a number of 1,314 hospitalizations for 1,249 female patients under 18 years old, registered during eight years in a university hospital in North-Eastern Romania. The data collected have been analyzed using Microsoft Office Excel 2007.

Several variables were taken into consideration: year, age, environment (urban/rural), diagnosis (birth, abortion), the birth procedure (natural birth, caesarean section), number of hospitalizations for the same patient, number of births per teenage mother.

The study was approved by the ethical committee of the hospital and statistical data collected for the research and the dissemination of results guarantee the privacy and the confidentiality of personal data.

Results and discussions

During 8 years, 1,249 teenagers were hospitalized in the maternity hospital. The 1,249 girls were hospitalized several times during the period taken into consideration, for a number of 1,291 births (a statistical mean of 161.37 births/year or 13.44 births/month) and 23 abortions on request. The total number of teenagers' hospitalizations is 1,314.

The total number of births among minor mothers has been increasing considerably through the ages. The distribution of births for the period taken into consideration in the study is presented in Table 1, showing that the number of teenage mothers coming from rural areas is 5 times higher compared to that of patients from urban areas. This difference is available for all concerned ages. It is important to point out that the minimum age of becoming a mother is 12 years old for urban areas and 13 years old for rural areas, possibly due to the fact that the age of the first sexual contact is younger in urban areas. A birth at the age of 12 is proof that the minor started her sexual life at least 8 months earlier, so, generally speaking, we can assess the first sexual contact at the age of 11.

Our results are according to international studies focusing on the age of the first sexual contact in Europe and worldwide, including data referring to other variables, like ethnicity and socioeconomic status.

Births and termination of pregnancy in teenagers*Table 1.* Statistical data regarding the number of births related to the age and rural/urban area

Age	Teenage Births		Total
	Rural	Urban	
12 Years old	0	4	4
13 Years old	6	4	10
14 Years old	26	12	38
15 Years old	121	26	147
16 Years old	311	64	375
17 Years old	592	125	717
Total	1056	235	1291

Table 2 shows data regarding the distribution of hospitalizations for births and abortions on request according to the calendar year and environmental area of the young patients. The number of abortions decreased considerably toward zero, while the number of births oscillated between 137 (in 2009) and 189 (in 2014). The analysis of data depending on urban/rural areas reveals a five times difference between teenagers from the considered areas, showing that, at all ages, the difference is about 5 times.

Table 2. Distribution of number of births and abortions per year and urban/rural area

Year	Teenage Births			Teenage terminations of Pregnancy		
	Total	Rural N (%)	Urban N (%)	total	Rural N (%)	Urban N (%)
2007	159	119 (74.84%)	40 (25.16%)	14	10 (71.43%)	4 (28.57%)
2008	168	129 (76.79%)	39 (23.21%)	3	3 (100.00%)	0 (0.00%)
2009	137	114 (83.21%)	23 (16.79%)	2	2 (100.00%)	0 (0.00%)
2010	160	146 (91.25%)	14 (8.75%)	2	1 (50.00%)	1 (50.00%)
2011	159	137 (86.16%)	22 (13.84%)	1	1 (100.00%)	0 (0.00%)
2012	179	150 (83.80%)	29 (16.20%)	1	0 (0.00%)	1 (100.00%)
2013	140	111 (79.29%)	29 (20.71%)	0	0 (0.00%)	0 (0.00%)
2014	189	150 (79.37%)	39 (20.63%)	0	0 (0.00%)	0 (0.00%)
Total	1291	1056 (81.80%)	235 (18.20%)	23	17 (73.91%)	6 (26.09%)

The number of births in the urban area remained constant over the considered years. On the contrary, the births of mothers coming from rural areas increased by 1 from 2007 to 2014 and births in teenagers from urban areas increased significantly, 200%, comparing 2010 with 2014. Anyway, the number of births in teenagers from urban and rural areas is 3 - 10 times higher than in urban areas. One possible explanation is that the accessibility of women from rural areas to medical services had increased and, on the other hand, the national data regarding school dropout in rural areas could serve as a second reason: girls with no education, no job and no purpose are involved in risky and unprotected sexual activity.

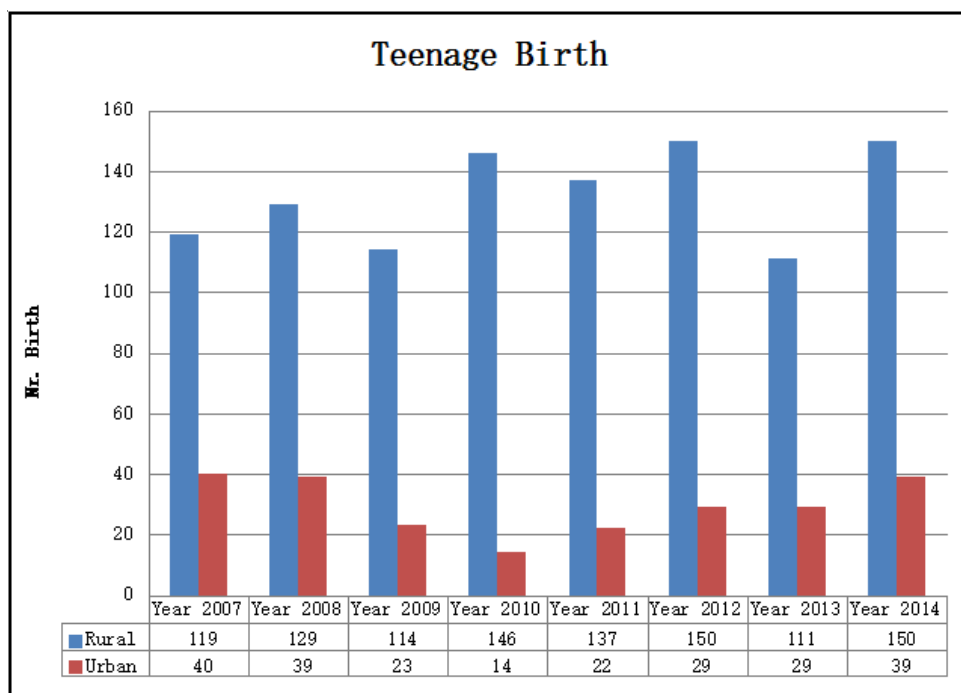


Figure 1. The distribution per year of births according to the urban/rural area

A ratio of 2/3 of the births is registered at the ages of 16-17. The increase in the number of minor mothers is exponential (10 cases at 13 years old, 38 cases at 14 years old, 147 cases at 15 years old), that is, 3 times as many cases per year of age. An important increasing rate is recorded at the age of 15, when 3 times as many births are recorded.

Table 3. The distribution of births according to the calendar year and age

Age	2007	2008	2009	2010	2011	2012	2013	2014	Total
12 Years Old	1	1	0	0	1	1	0	0	4
13 Years Old	1	1	1	0	1	1	4	1	10
14 Years Old	2	3	2	2	8	2	5	14	38
15 Years Old	13	15	19	28	16	19	15	22	147
16 Years Old	47	43	43	45	51	50	41	55	375
17 Years Old	95	105	72	85	82	106	75	97	717
total	159	168	137	160	159	179	140	189	
TOTAL = 1291									

Over the years, an increasing number of births is also registered at the ages of 14, 15 and 16.

These rates are explained by the fact that the secondary level of school is finished and girls do not continue their education, so they are not going to college. The problem is more important for the teenagers from rural areas, where colleges do not exist, so those children who intend to continue their education must travel for hours every day in order to go to school. On the other hand, the socioeconomic status of families from rural areas is too low, in most cases, so they do not have enough financial resources to support children's education in larger cities. Leaving without a purpose in life, not being involved in activities except their daily lives at home, most of the girls are directed to living in a couple or housekeeping.

Some studies identified that, among Romanian teenagers, the main reason for starting sexual activity at an early age is curiosity, followed by peer pressure (Simigiu, 2014).

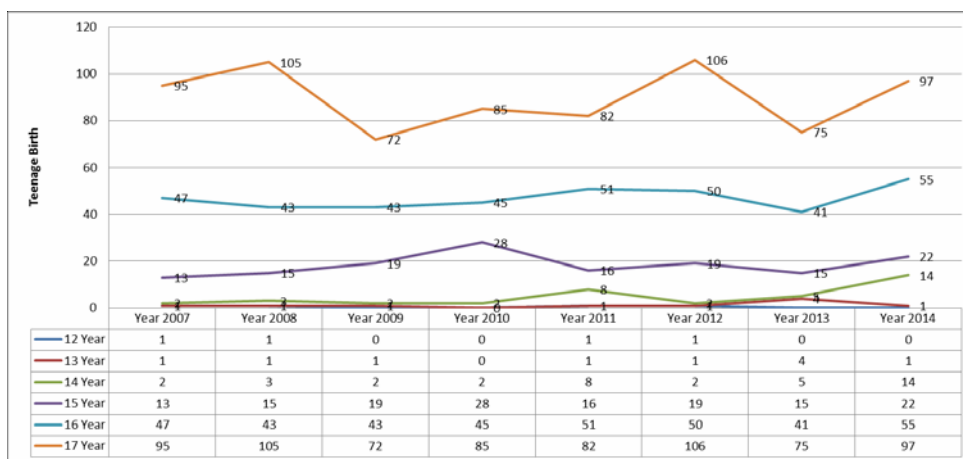


Figure 2. The distribution of births according to the age and calendar year (2007-2014)

Teenagers, mothers of two children

The study revealed that a number of 64 teenagers are already mothers of two children. The distribution according to the environmental variable has shown that 56 of them come from rural areas and 8 live in urban areas, the number of mothers from the countryside being 7 times higher compared to patients from urban areas. 35 patients became mothers for a second time during the very next year of their first birth. At the age of 14, 2 patients were already mothers of two children each and 2 patients aged 17 became mothers of 2 children in the same calendar year. These results are proving that having a child during adolescence, living in a rural area are risk factors for teenagers.

Medical problems related to pregnancy at this age

The number of caesarean sections in teenagers constantly increased and doubled from 2007 to 2014; meanwhile, the number of natural births remained constant. The rate is 1:3 (so natural births are 3 times as frequent for the total number of teenagers) but a more detailed analysis must be performed, according to age and urban/rural areas.

Table 4. The distribution of natural births and caesarean according to the calendar year

Main Procedure	2007	2008	2009	2010	2011	2012	2013	2014	Total
Cesarean	27	32	33	33	37	43	40	54	299
Natural birth	132	136	104	127	122	136	100	135	992

Some studies have shown that early sexual initiation is related to a lower rate of use of condoms and contraceptives (leading to unwanted pregnancies) and a higher rate of depression and negative peer interactions (leading to psychological problems and social interactions) (Madkour *et al.*, 2012). Regarding physical aspects, a pregnancy during childhood implies a lot of medical problems. A child is not physically ready to carry a pregnancy. The biological immaturity of the cervix increases the female's possibility to contact a sexually transmitted disease.

The distribution of caesarean sections at the age shows that a girl is not prepared to have a child from a physical point of view (the rate is 50% caesarean births at the ages of 12 and 13), past 13 the rate of natural births increases, arriving at 77% at the age of 17. The evolution of this rate proves that the bodies of older girls are more capable to carry on a pregnancy and to give birth naturally to a child.

Table 5. The distribution of caesarean section and natural births according to the age and rural/urban area

Age	Cesarean section (CS)				Natural birth (NB)				Total Teenage Births (TTB)		
	Rural	Urban	Grand Total	% CS from TTB	Rural	Urban	Grand Total	% NB from TTB	Rural	Urban	Grand Total
12		2	2	50%	0	2	2	50%		4	4
13	3	2	5	50%	3	2	5	50%	6	4	10
14	8	7	15	39%	18	5	23	61%	26	12	38
15	24	9	33	22%	97	17	114	78%	121	26	147
16	66	22	88	23%	245	42	287	77%	311	64	375
17	130	26	156	22%	462	99	561	78%	592	125	717
Total	231	68	299	23%	825	167	992	77%	1056	235	1291

The lower rate of abortions could be linked to the fact that unintended pregnancies are now better prevented by the frequent use of contraceptives; the constant rate of pregnancies could be explained by the fact that some studies have shown that, in developing countries, most teenage pregnancies are wanted (Segdh *et al.*, 2015) but other studies point out that, generally speaking, pregnancies under 18 years old are not planned (Madkour *et al.*, 2012).

Ethical problems are also involved in the case of children with children (Fisher *et al.*, 2015). Being minor patients, different dilemmas are related to the informed consent and the care of the newborn in case of medical need (who signs the informed consent or who will sign the admittance and accompany the teenage mother to and from the hospital). Another ethical problem refers to the age of consent in Romania. For several years, the age of consent was 14, but it has been raised to 15. But a lot of contradictory texts adopted over the years make the interpretation of law difficult.

This study has several limitations. The statistical data refer to cases hospitalized in the main university hospital in North-Eastern Romania; results cannot be generalized to all regions of the country. Despite limitations, the research contributes to the analysis of the teenage pregnancy phenomenon in Romania; this being the general aim of the study, due to the fact the number of previous researches on pregnancy, motherhood or obstetrical complications in teenagers in Romania is very small.

Secondly, the ethnicity and religion were not considered as independent variables. It is very possible that the youngest girls belong to the gypsy people, where early marriages are encouraged and approved by the community. Regarding this issue, some studies have pointed out that early marriages are only a myth related to early pregnancy, more important being the drop out of school, the need to work at home or taking care of younger brothers and sisters (Madkour *et al.*, 2012).

Patients coming from the countryside are usually more religious and the termination of a pregnancy is not encouraged by the family, religious leaders or community. The hospital does not record statistical data like ethnicity or marital status, such information is requested only by the department of social assistance, so this kind of variables couldn't be considered for this research.

The results of this study are important for pediatricians, family doctors, psychologists, educators, parents and policy makers. The medical approach of this problem is that pediatricians and family doctors must initiate a discussion with the adolescent girl, preferably before her being engaged in sexual relationships. Teachers and school psychologists must create trusting relationships with their students and be available to help them. Those responsible for education and health policies must create, promote and evaluate national projects in order to decrease the rate of uneducated children and increase accessibility to medical services and family policies (Robila, 2012). Not least, parents and family members are responsible for these higher rates of pregnancy among teenagers. Some studies have shown that pregnancy in adolescents is related to an early pregnancy of the mother, divorced parents and behavior problems.

Conclusions

Similar rates of pregnancy among teenagers in Romania during 8 years prove that there are no successful educational or medical programs implemented to target the problem related to this age group. Rural teenagers have a 4 times higher risk of giving birth before the age of 18. The decreasing number of abortions is explained by several factors, including the lack of accessibility to medical services that leads to carrying the pregnancy or the failure to increase sexual responsibility by the use of diverse methods of sexual protection, like condoms or contraceptives.

The results are important for teachers, psychologists, pediatricians and family doctors, in order to educate and supervise teenagers regarding their sexual life and the risks related to an unsafe pregnancy. On the other hand, national policies must address this vulnerable category to manage the psychological, social, financial and medical difficulties of both teenage mother and child.

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