Prevalence of legal abortions and correlated causes in a central women's hospital in south of Iran (2009-2012)

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Abstract: Background: Abortion is termination of pregnancy by any means so that the fetus lacks the ability to live outside the uterus. The aim of this descriptive study was to assess the causes of legal abortion in pregnant women referred to a central women's hospital in south of Iran. **Methods:** In this descriptive retrospective study, all the records of therapeutic abortions from 2009 till 2012 which were approved by forensic specialist were included. A total of 176 records were included and the extracted data were analysed by SPSS software. **Results:** Most cases were in 2010 (35.2%), and the fewest cases were in 2009 (13.1%). The mean age of the women was (26.6±6.1). In most cases (87.5%) the legal abortions had fetal causes and 12.5% had maternal causes. The most prevalent fetal cause of abortion was due to thalassemia (41.5%), and anencephaly (18.2%), while the most prevalent maternal causes of abortion were cardiovascular diseases (6.3%). **Conclusion:** Present study shows fetal abnormalities are increasing, and it seems that educating people and increasing their awareness about fetal anomalies and also contraception in women with cardiovascular diseases could be an effective way to decrease the rate of abortion.
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Introduction

Abortion is termination of pregnancy by any means before the fetus is viable outside the uterus (before 20 weeks of gestational age or weight of 500gr). Abortions are classified into two groups: induced and spontaneous. Induced abortions are either elective(illegal) and therapeutic(1). World Health Organization has estimated that in year 2000 AD, approximately 19 million unsafe abortions are done every year, and nearly all of them are done in developing countries where the abortion is illegal (2). Regardless of legal and cultural issues in every society, there are some women who terminate their unwanted pregnancies (3). In many Islamic countries, abortion has some Islamic basis, but legal issues regarding abortion and prevalence of legal and illegal issues are different in different Islamic countries(4-7). In Iran after approval of therapeutic abortion in Islamic parliament in 2005 AD, the routine of therapeutic abortions had a drastic change. Currently, abortion is legally performed when the mother's life is at risk or the fetus has a definite severe malformation, which is in controversy with the life of the baby or endangers the mother's health.After approval of this law the Forensic Medicine permitted the therapeutic abortion, and announced 51 cases of maternal and fetal disorders such as hydropsfetalis, and the conditions which cause death of the fetus after birth such as anecephaly and meningocephaly, life threatening conditions of mother such as active HIV infection, renal failure, heart failure, status epilepticus, uncontrolled lupus erythematosus in which the abortion was allowed(8). Regarding this fact that the therapeutic abortion is allowed only before 16 weeks of gestational age, and intentional abortion can cause severe problems both for families and for the physicians and nursing group, it seems that increasing awareness of medical group and the society about the legal issues of therapeutic abortions could decrease illegal abortions significantly and thus the multiple problems for pregnant women and their families and the medical group decreases consequently (3) because many of the abortions could be performed in a safe and

appropriate time, when the woman knows about the legal abortion instead of going to unhygienic and unclean places to abort. Assessing the therapeutic indications of abortion, also helps to find new indications for therapeutic abortions which may lead to birth of healthy infants. Only a few studies are done in Iran to assess the indications of therapeutic abortions. The most prevalent condition which abortion is indicated is cardiovascular disease of mother and beta thalassemia in the fetus. This study was performed to assess the causes of therapeutic abortions during 2009-2012 in a central women's hospital in south of Iran.

Methodology:

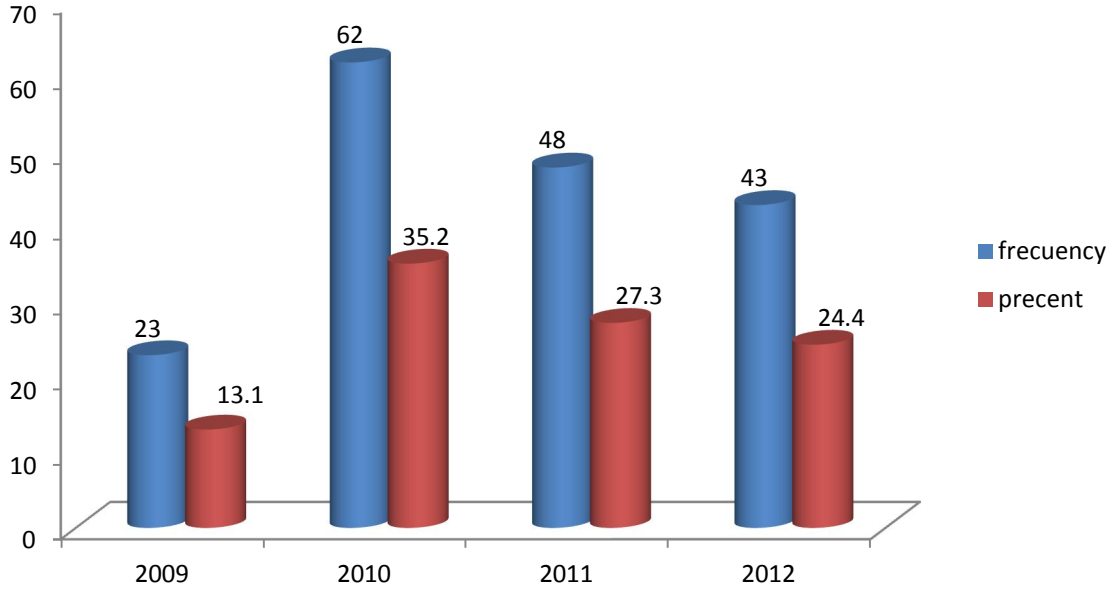
This retrospective descriptive study is performed medical records of all cases of therapeutic abortions in 2009-2012 in Shariati Hospital (a central women's hospital) which were approved and permitted by forensic medicine of Bandar Abbas. A check list containing demographic data, maternal age, residence, number of gravidity, number of parity, number of abortions, number of live births, number of abortions, maternal disorders, fetal disorders, type of delivery, maternal blood group, maternal Rh was used to extract the data. Incomplete records were discarded. The data were analyzed by SPSS using descriptive statistics. P value less than 0.5 was considered statistically significant.

Results:

A total of 176 records were studied. Mean age of women was (26.6±6.1) years. Age range was (16-42). Mean parity was 2.3 (range of parity was 1-9), and the mean gestational age was 3.111.± 14.7 weeks (range of gestational age was 4-20 weeks). Most of the abortions were performed in 2010 and the least in 2009 (table 1). Current findings show that from 176 women, 36 (20.45%) were illiterate, 47 (26.70%) had primary and middle school education and 93 (53.1%) had high school or higher education

Table 1: Frequency of Therapeutic abortion

year	frequency	precent
2009	23	13.1
2010	62	35.2
2011	48	27.3
2012	43	24.4
total	176	100



Descriptive analysis shows that prevalence of fetal malformations for permission of legal abortion was 154 (87.5%) and prevalence of maternal disorders for permission of legal abortions was 22 (12.5%). Gestational age in candidates for therapeutic abortion was 16 weeks or less in 121 women. Therapeutic abortion was most prevalent in age group of 20-25 years (31.8%), and was least prevalent in age group 40.-45 years (1.7%). Therapeutic abortion was most seen in primiparous women, 61 cases (38.1%), and least seen in women with parity of 9 (0.6%). The most frequent causes of therapeutic

abortion in this study were thalassemia (41.5%), anencephaly (18.2%), and heart failure (6.3%). Blood group of the women was O (44.9%), B(25.6%), A(17%), AB(7.4%).

Table 2: Prevalence of legal abortion according to maternal or fetal causes of abortion

Causes of maternal abortion	**frecuency**	**precent**
heart failure	11	6.3
Lupus	4	2.3
M.S	3	1.7
Cancer breast	2	1.1
Epilepsy.	1	0.6
Colon Cancer	1	0.6
total	22	12.5
Causes abortion.	**frecuency**	**precent**
Thalassemia	73	41.5
anencephaly	32	18.2
Multiple abnormalities.	14	8
Hydrocephalus	9	5.1
Hydrops	4	2.3
Down Syndrome	3	1.7
other	19	1.8
total	154	87.5

Discussion

Current study shows that 87.5% of legal abortions were due to fetal malformations or disorders and only 12.5% were due to maternal disorders. In ShojaMoradi et al study(9), 80% of the abortions in 2011, Maleki and coworkers study (10)78.8% in 2007, Abedi and coworkers study(11)in 2004 in 63.9% were due to fetal disorders. This comparison shows that by issuing the permission of legal abortion by Islamic parliament, legal abortion for fetal disorders has increased. It is probably due to this cause that according to previous permissions on therapeutic abortions which were mainly issued on maternal causes, fetal indications for therapeutic abortions were less known. Gradually fetal indications for therapeutic abortions were more explored, prenatal care increased and with help of other diagnostic methods such as ultrasound and amniocentesis fetal anomalies were diagnosed in the early stage and thus helped to increase the fetal indications of therapeutic abortions. According to this study's results most cases of the abortions were in 2010(35.2%) and the fewest abortions were in 2009(13.1%). A glance at the statistics of this study, reveals that though therapeutic abortion has an increasing trend but, still some cases are being performed illegally, which seems that correct public and medical groups should be informed correctly about the hazards of illegal and unsafe abortion, and illegal abortions should be prevented. In present study the most prevalent maternal cause of therapeutic abortion is cardiac disease (6.3%) and the most prevalent fetal cause is beta thalassemia (41.5%) and anencephaly (18.2%) is the second most common cause which is in concordance with Qadi Pasha and coworkers study(3), Tofighi and coworkers(12) and ZandVakili'study(13) in Sanandaj but in ZandVakili's study the prevalence of anencephaly and beta thalassemia was reversed but still they were the major causes of abortion due to fetal disorders. In our study the most prevalent cause was beta thalassemia which could be due to high prevalence of beta thalassemia in Bandar Abbas. So screening for thalassemia minor individuals in pre martial counseling to prevent conception of beta thalassemia fetuses leading to therapeutic abortion is effective. And for mothers with cardiovascular diseases, who are the most prevalent group having therapeutic abortions education and informing about their disease and the consequences is necessary. And for the women in progressive heart disease a contraception (such as tubal ligation or vasectomy for their spouses) is recommended to decrease the number of abortions in the first place or if this is not applicable legal abortion is advised in the second place.

In this study women aged 20-25 years had most of the therapeutic abortions (31.8%) just like QadiPasha andToufighi's studies(3, 12), but were less than ZandVakili's study(13) where most of the cases were aged 30-35 years. In our study, 93 (53.1%)women had diploma or higher level education, like Toufighi et al study(12), so it can be inferred that education level could be effective in undergoing therapeutic abortion. Most of the abortions were performed in 4-16 weeks of gestational age (in 121 cases) which can be interpreted as the accessibility to the modern diagnostic methods such as ultrasonography, and other specialized diagnostic methods.

One of this study's limitations was incomplete accessibility to illegal abortions in Bandar Abbas, so that the legal abortions could be compared with the illegal abortions. Another limitation which could be mentioned was that this study could not be compared with similar studies in other countries due to cultural incompatibility and we could find no similar countries with a law similar to therapeutic abortion law in Iran. On the other hand, few similar studies were performed in Iran, so this study was compared with a few similar studies.

Conclusions

Current study shows high prevalence of therapeutic abortion due to fetal abnormalities, which

need a wide national education on inherited and genetic diseases leading to fetal malformations, and other conditions which may cause fetal anomalies to increase people's awareness on this topic; and for women with cardiac disorders contraception is mandatory.

It is suggested that healthcare workers and officials promote public awareness on this important topic to reduce therapeutic abortion.

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