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# THE FETO-MATERNAL CONSEQUENCE OF PREGNANCY IN FEMALES SUFFERING FROM MITRAL STENOSIS

**[1]Dr Anila Asghar, [2]Dr Zirwa Noor, [3]Dr Samina Mukhtar**

[1]Allied / DHQ Hospital Faisalabad.

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**Abstract:**

***Objective:*** *This research work carried out to assess the rate of feto-maternal consequence of pregnancy in the females suffering from MS (mitral stenosis) who got admission in the Civil Hospital, Lahore.* ***Methodology:*** *This research work was a descriptive study of complete 2 years in the gynecology department of Allied / DHQ Hospital Faisalabad. All the females with pregnancy suffering from mitral stenosis with the utilization of echocardiography were the part of this research work. The gathering of the information about the age of the female, parity, pregnancy duration with the help of ultrasound and their complaints, carried out for every female. The delivery mode and mortality of mothers noted down. The analysis of the outcome of the fetal carried out with the help of weight at the time of birth as well as scores of APGAR score.*

***Results:*** *A sum of one hundred and one patients who were fulfilling the standard of the study, were the part of this research work. The range of the age of patients was twenty to twenty nine years. Eighty one percent females were multigravida. Delivery through vagina happened in 66.30% (n: 67) females & term pregnancies were available in 78.30% females. The occurrence of preterm births was present in 21.80% patients & 27.70% new babies were available with low weight at the time of birth. APGAR scores less than seven were available in 14.90% neonates & nine neonates faced intrauterine death. Less ejection fraction less than fifty five percent was present in 13.90% (n: 20) females & 2 females faced death in this study.*

***Conclusion:*** *Cardiovascular diseases during pregnancy period have association with important morbidity rate. A careful management of this problem is the requirement to get the optimum outcome of maternal as well as fetal.*

**Keywords:** *Cardiovascular, Pregnancy, Mitral, Vagina, Intrauterine, Parity, Mortality, Consequence, Methodology, Maternal, Neonate.*

**Corresponding author:**

**Dr. Anila Asghar,**

*Allied / DHQ Hospital Faisalabad.*

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## INTRODUCTION:

The occurrence of the heart diseases is visible in the pregnancy period from many years. The current research works state the occurrence of 0.10 to 4.0% [1]. In the countries which are underdevelopment as Pakistan, rheumatic diseases of heart are responsible for a large quantity of patients and the most prevalent valvular abrasion is MS [2]. Widespread alterations happen in the hemodynamics of cardiovascular at the pregnancy period. Heathy females can easily manage these adaptations and females with the disease of hearts enhances the rate of morbidity as well as mortality [3]. Cardiovascular alterations occurring in the period of pregnancy result in huge flow, less hindrance state alterations which start at the seven week of pregnancy and persist two weeks after the delivery [4].

The investigation of the evaluation of the capacity of heart function carried out with the help of electro-cardiograph, saturation of oxygen & complete check of blood & echo-cardiograph [2]. There are many innovations for the betterment of the cardiology methods, echo-cardiographs are the foundation for evaluating cardiac issues [5]. The patients with deficiency of asymptomatic valvular have tendency to bear the volumetric excess at the period of pregnancy much beautifully [6]. There is a need to still discover the important methods to decrease the deaths of mothers because of heart disease in the period of pregnancy [7]. Mother with good condition of heart at the time of pregnancy period have displayed less amount of complications as delivery before complete period as well as low mortality & morbidity [8]. The management to tackle this issue should start before concept [9. There should be a ban of pregnancy in such complicated cases.it is very vital to discover the various risk factors which are responsible of forecasting the unfavorable outcome of the pregnancy [10].

## METHODOLOGY:

This descriptive research work conducted in the department of gynecology in Allied / DHQ hospital Faisalabad, and the duration of this study was from January 2016 to December 2018. Total 101 patients were the part of this research work. All the females suffering from the mitral stenosis discovered with the utilization of the echocardiography after first 3 months of delivery were the part of this case work. All the females who were suffering from serious medical disorders as anemia asthma, DM, disease of thyroid or smoking addict were not the part of this case work. Every female gave her consent to participate in the case work. The information about the age of female, parity and their complaints as shortening of breath, weakness, vomiting were recorded. Echocardiography was in use for every patient for the diagnosis of the mitral stenosis. The evaluation of the patients for new start of the failure of heart & ejection fraction recorded. The delivery mode was under observation.

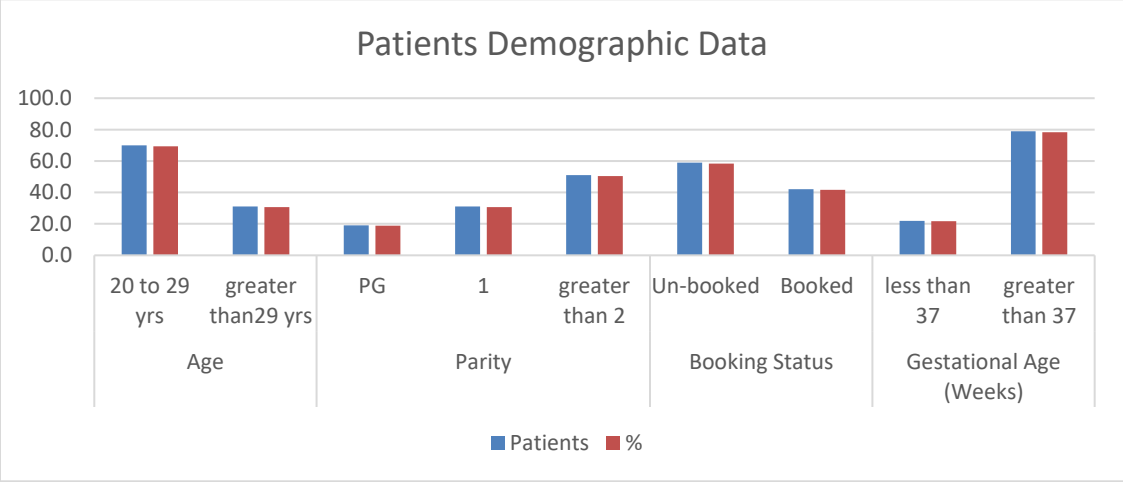
The maternal mortality was also under notice. The assessment of the fetal outcome carried out with the help of scores of APGAR, low weight at the time of birth, premature birth & mortality. The collection of this information carried out in a Performa. SPSS V.10 was in use for the analysis of the collected data. The calculation of the average ± SD values carried out for age of female, parity, duration of pregnancy period, less scores of APGAR, low weight at the time of birth & ejection fraction. The calculations of the frequencies for the patients having mild, medium or extreme MS carried out. The patients who developed the failure of heart, who lost their lives, delivery mode & adverse outcome of feta were also under consideration. The stratification of different factors also carried out to observe the result of the outcomes.

## RESULTS:

A sum of 101 females with pregnancy period of thirteen to forty two weeks suffering from MS were the part of this research work. The average age of the patients was 26.30 ± 4.30 years. Most of the females 69.30% (n: 70) were of twenty to twenty nine year of age. Total 81.20% (n: 82) females were multiparous, whereas 18.80% (n: 19) females were prim-gravida. Total 41.60% (n: 42) females were booked & 58.40% (n: 59) females were not booked. The average period of pregnancy at the time of birth was 36.30 ± 2.80 weeks. Pre-maturity was available in 21.80% (n: 22) patients. (Table-1). The delivery from vagina was the very frequent delivery mode available in 66.30% (n: 67), followed by cesarean of the lower segment in 33.70% (n: 34) females.

**Table-I: Demographic Data of Patients n=101**

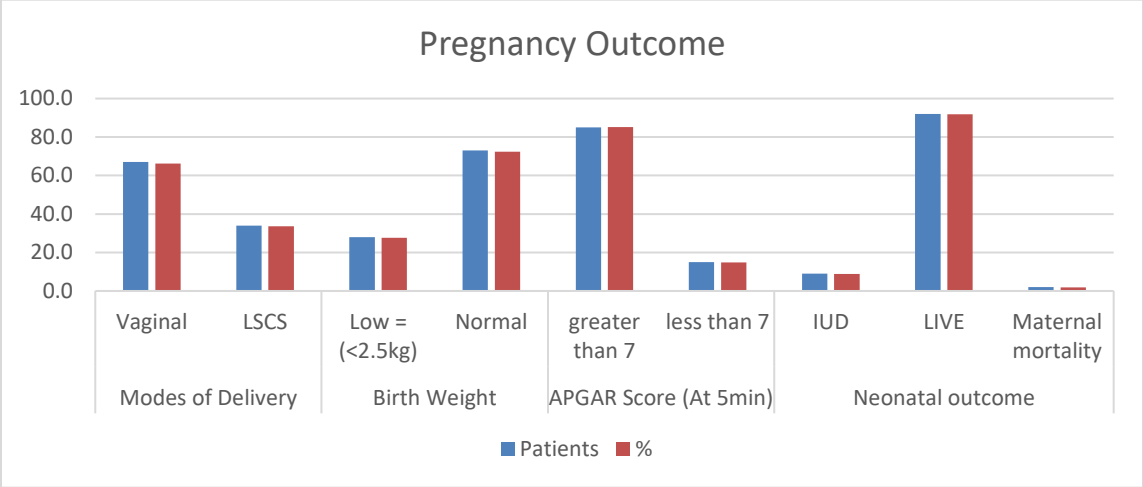
| Variable | | Patients | % |
|---|---|---|---|
| Age | 20 to 29 yrs | 70.0 | 69.30 |
| | greater than29 yrs | 31.0 | 30.70 |
| Parity | PG | 19.0 | 18.80 |
| | 1 | 31.0 | 30.70 |
| | greater than 2 | 51.0 | 50.50 |
| Booking Status | Un-booked | 59.0 | 58.40 |
| | Booked | 42.0 | 41.60 |
| Gestational Age (Weeks) | less than 37 | 22.0 | 21.80 |
| | greater than 37 | 79.0 | 78.30 |




The average weight of the neonates at the time of birth was 2.60 ± 0.52 kilogram. We found the less weight of birth in 27.70% (n: 28) babies. The average scores of APGAR was 6.990 ± 0.90. The rate of maternal mortality was 1.90%. (Table-2).

**Table-II: Maternal and Fetal Outcome**

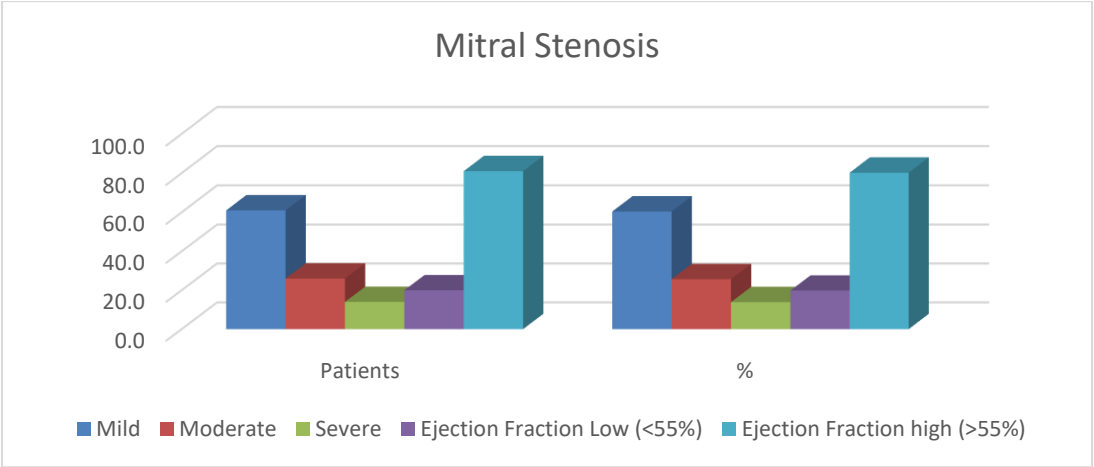
| Outcome | | Patients | % |
|---|---|---|---|
| Modes of Delivery | Vaginal | 67.0 | 66.30 |
| | LSCS | 34.0 | 33.70 |
| Birth Weight | Low = (<2.5kg) | 28.0 | 27.70 |
| | Normal | 73.0 | 72.30 |
| APGAR Score (At 5min) | greater than 7 | 85.0 | 85.10 |
| | less than 7 | 15.0 | 14.90 |
| Neonatal outcome | IUD | 9.0 | 8.90 |
| | LIVE | 92.0 | 91.90 |
| | Maternal mortality | 2.0 | 1.90 |




Medium level stenosis were available in 25.70% (n: 26)
Females & extreme level stenosis was present in 13.90% (n: 14) females. Echo-cardiograph were in use for the diagnosis of the failure of heart. Less ejection fraction was present in 19.8% (n: 20) females. Table-3.

**Table-III: Grading of Mitral Stenosis n=101.**

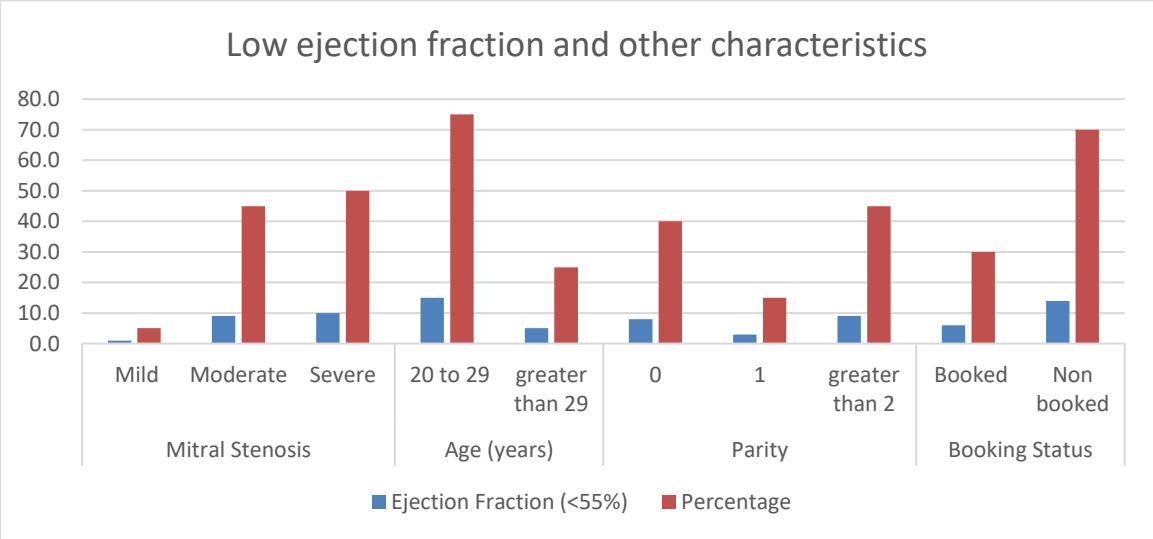
| Mitral Stenossis | Patients | % |
|---|---|---|
| Mild | 61.0 | 60.40 |
| Moderate | 26.0 | 25.70 |
| Severe | 14.0 | 13.90 |
| Ejection Fraction Low (<55%) | 20.0 | 19.80 |
| Ejection Fraction high (>55%) | 81.0 | 80.20 |




The quantity of less ejection fraction was much greater in multiparous females & females from twenty to twenty nine years of age. Total 73.70% (n: 14) of no booked patients found with low amount of ejection fraction as mentioned in Table-4.

**Table-IV: Low Ejection Fraction (<55%) with Respect to Mitral Stenosis and other Variables**

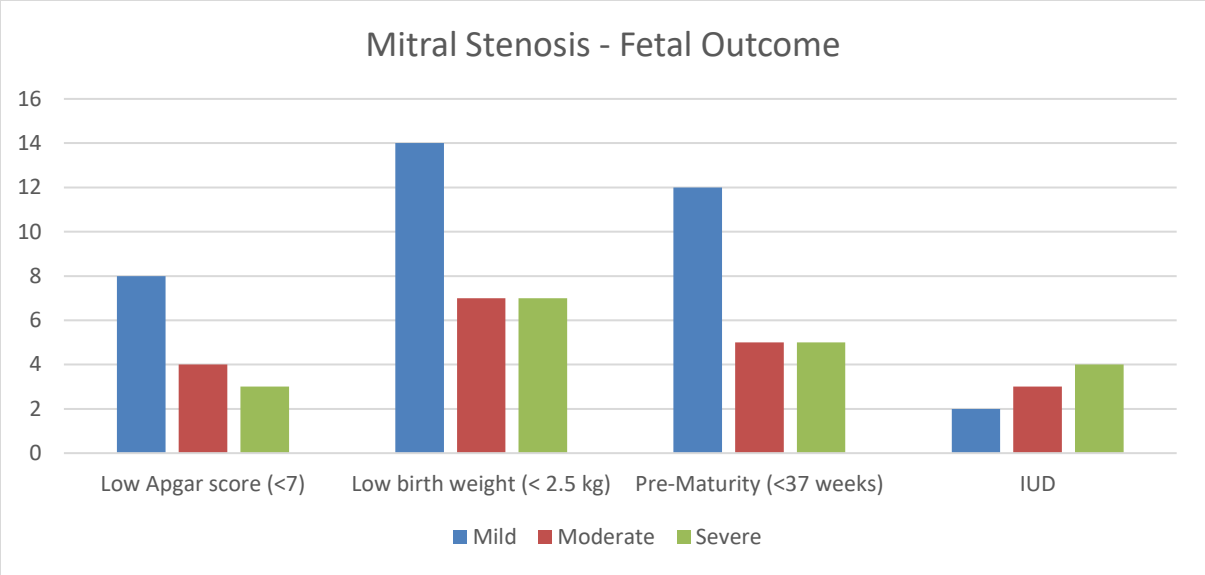
| Parameters | | Ejection Fraction (<55%) | Percentage |
|---|---|---|---|
| Mitral Stenosis | Mild | 1.0 | 5.00 |
| | Moderate | 9.0 | 45.00 |
| | Severe | 10.0 | 50.00 |
| Age (years) | 20 to 29 | 15.0 | 75.00 |
| | greater than 29 | 5.0 | 25.00 |
| Parity | 0 | 8.0 | 40.00 |
| | 1 | 3.0 | 15.00 |
| | greater than 2 | 9.0 | 45.00 |
| Booking Status | Booked | 6.0 | 30.00 |
| | Non booked | 14.0 | 70.00 |




The rate of the deaths inside uterine was very high among the females suffering from MS as mentioned in Table-5.

**Table-V: Fetal outcome with respect to Mitral stenosis n=101.**

| Mitral Stenosis | Low Apgar score (<7) | Low birth weight (< 2.5 kg) | Pre-Maturity (<37 weeks) | IUD |
|---|---|---|---|---|
| Mild | 8.0 (53.30%) | 14.0 (50.00%) | 12.0 (54.50%) | 2.0 (22.20%) |
| Moderate | 4.0 (26.70%) | 7.0 (25.00%) | 5.0 (22.70%) | 3.0 (33.30%) |
| Severe | 3.0 (20.00%) | 7.0 (25.00%) | 5.0 (22.70%) | 4.0 (44.50%) |




## DISCUSSION:

The administration of the pregnancy in the females suffering from diseases of heart is a great challenge to the physician [1]. The diseases of heart are the most vital reason of maternal deaths in the period of pregnancy and these are responsible for 10.0% maternal deaths. These diseases make difficult 1% - 3% pregnancies with the presence of congenital abnormalities in 70% - 80% patients [2]. MS is a complication which is secondary to the rheumatic fever [11]. Pregnant female with the heart disease present a challenge to the professionals of the health care. The elaborated evaluation of the patient in the whole process of the pregnancy can lead to the early detection of these diseases of heart [6]. The pregnant females with MS have an association with the high danger of maternal mortality [12]. This high rate of complication is due to the no ability to handle the changes in the pregnancy period [13]. The favorable outcome of pregnancy can be result of good management, early detection & well treatment [14]. Echocardiography is method which is in use to verify the extremity of the heart diseases [15].

The most common delivery mode in this case work was delivery from vagina which is similar to the results of study of Avila [16]. Hameed [17] in his research displayed vaginal delivery was present in sixty one out sixty six patients of heart diseases. Bonow [18] in his work also concluded the high rate of vaginal delivery. There are only 2 maternal mortalities in this work similar to the work of Wasim T [19] who also showed only 3.80% mortality rate. Sawhney [20] in his study displayed that there were 252 live births out of total 254 births and stillbirths were only 2 & average weight at the time of birth was 2.60 kg.

Ashwani [21] in his study displayed 51.30% occurrence of MS. The vitality of the diagnosis before pregnancy & counseling are very effective for the safe management of the pregnancy tenure and outcome [22].

## CONCLUSION:

There is an association between the high rates of morbidity & mortality with the heart diseases in the period pregnancy. To get the optimistic outcome of mother as well as fetal, it is very important to tackle these problem in our health care centers.

## REFERENCES:

1. Yu-Ling Tan Jackie. Cardiovascular disease in pregnancy. Obstet Gynaecold Repro Med. 2007;17(5):131-139. doi: 10.1016/ij.orgm 2010.01.006.
2. Arafeh J, Yasser Y, Sayed EL. Cardiac Disease in Pregnancy. Neo Rev. 2004;5: e232-39. doi: 10.1542/neo.5-6-e232.
3. Keser N. Echocardiography in pregnant women. Anadolu Kardiyolderg. 2006; 6:169-173.
4. Sobelga AL, Tractz W, Kostkiewicz M, Podolec P, Pasowicz M. Clinical and echocardiographic Assessment of pregnant women with valvular heart disease-maternal and fetal outcome. Int J Cardiol. 2004; 94:15-23. doi-10.1016/j.ij card 2003-03-017.
5. Haththotuwa HR, Attygalle D, Jayatilleka CA, Karunaratna V, Thorne AS. Maternal mortality due to cardiac disease in Sri Lanka. Int J Gyne Obs. 2009; 104:194-198. doi: 1016/j. ijgo.2008-10-031.

6. Faiz SA, Al-Mishari AA, Sporrong BG. Pregnancy and valvular heart diseases. Saudi Med J. 2003;24(10):1098-1101.
7. Hsich TT, Chen KC, Soong JH. Outcome of pregnancy in patients with organic heart disease in Taiwan. Asia-Oceania J Obstet Gynaecol. 1993; 19:21-27. doi: 10.1016/50020-7292(03)00159-0
8. Sermer M, Colman J, Siu S. Pregnancy Complicated by heart disease: a review of Canadian experience. J Obs Gynae. 2003;23(5):540-544. doi: 10.1080/01443610001503492
9. N.K.A.W, Mook V, Peters L. Severe cardiac disease in pregnancy, part 2: impact of congenital and acquired disease during pregnancy. Lippincott Williams and Wilkins. 2005; 11:435-448.
10. Gibson M, Zorkun C. Mitral stenosis. WikiDoc Resources. 2009;14-23.
11. Madazli R, Sal V, Cift T, Guralp O, Goymen A. Pregnancy outcomes in women with heart disease. Arch Gynecol Obstet. 2010; 281:29-34. doi: 10.1007/s00404-009-1050-z
12. Asghar F, Kokab H. Evaluation and Outcome of Pregnancy Complicated By Heart Disease. J Pak Med Assoc. 2005;55(10):416-419.
13. Pillay PS, Macdonald AP, Mathivha TM, Bakker JL, Mackintosh MO. Cardiac disease in pregnancy: A 4-year audit at Pretoria Academic Hospital. SAAMJ. 2008;98(7):553-556.
14. Trinidad D, Cox RA. Heart disease during pregnancy. P R Health Sci J. 2006; 25:259-265.
15. Ashwini M, Gayatri Devi J. Maternal and foetal outcome in cardiac disease complicating pregnancy at a tertiary care centre in a rural area. Int J Biomed Res. 2014;5(3):200-203.
16. Maganti K, Rigolin HV, Sarano ME, Bonow RO. Valvular Heart Disease: Diagnosis and Management. Mayo Clin Proc. 2010;85(5):483-500. doi 10.4065/mcp.2009.0606.
17. Avila WS, Rossi EG, Ramires JA, Grinberg M, Bortolotto MR, Zugaib M, et al. pregnancy in patients with heart disease. Experiences with 1000 cases. Clincardiol. 2003; 26:135-142.
18. William T, Roberts, Dawn Adamson. Cardiovascular disease in pregnancy. Obst Gynaecol Reproduct Med. 2013;23(7):195-201. doi: 10.1016/j.ogrm.2013.06.003
19. Hameed A, Karaalp IS, Tummala PP, Wani OR, Canetti M, Akhter MW, et al. The effect of valvular heart disease on maternal and fetal outcome of pregnancy. J Am Coll Cardiol. 2001; 37:893-899. doi 10.10161/50735-1097(0001198-0
20. Bonow RO, Carabello B. ACC/AHA guidelines for the management of pregnant women with mitral stenosis. Am J Obstet Gynecol. 1990; 163:37-40.
21. Wasim T, Amer W, Majrooh A, Siddiq S. Foetomaternal outcome of pregnancy with cardiac disease. JPMA. 2008;58(4):175-178.
22. Sawheny H, Aggarwal N, Suri V, Vasishta K, Sharma Y, et al. Maternal and perinatal outcome in rheumatic heart disease. Int J Gynaecol Obstet. 2003; 80:9-14. doi: 10.1016/50020-7292(0200029-2).