The Effect of Self-Care Practices on Pregnant Cardiac Women Outcome and Nursing Implications

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Abstract: Cardiac diseases are a major cause of morbidity and mortality among pregnant women in the developing world. Most women with cardiac disease can go through pregnancy and delivery safely, so long as they are adequately evaluated, counseled and received high quality care. This study **aimed to** identify the self-care practices performed by pregnant cardiac women in Zagazig university hospilal, to find out the birth outcome behind the self-care practices performed by pregnant cardiac women, and to conduct a mother classes, and provide a handout booklet titled standard self-care practices for educating cardiac pregnant women. **Research design:** An exploratory descriptive design was utilized in this study. **Setting:** The study was conducted in antenatal high risk ward & outpatient clinic in obstetric department, at Zagazig university hospital. **Subjects:** A total of 180 pregnant cardiac women was collected over one year period, starting from the 1st of January 2017 to 31 December 2017. **Tools of data collection:** A structured interview questionnaire form, it entailed three parts: Part 1: This includes: Socio-demographic characteristics, present pregnancy data, current pregnancy data regarding practices, current treatment regimen, current pregnancy investigations. Part 11: Self-Care Assessment (SCAS). Part 111: Assessing newborn and labor outcome. The study **Results:** indicates that (100.0%, 100.0%, 96.7%, 91.7%, 81.7%, 80.0%) respectively of the studied cardiac pregnant women had unsatisfactory score levels of reported practices related to practicing exercise, foot care, nutrition, personnel hygiene, teeth care, as well as treatment and follow up of pregnancy. Also, (56.7% & 63.3%) of the studied women had high level of psychological and social stressors and only 3.3% of the women had high total coping level. As regards outcome, 86.7% of the studied cardiac pregnant women had full term pregnancy. Also, the same percentage 86.7% of the women had conducted normal vaginal delivery & (18.3%) of the studied women had delivered babies with unhealthy Apgar score less than 7. **Conclusion:** The study showed that the studied cardiac pregnant women had unsatisfactory score levels of reported daily practices related to practicing exercise, foot care, nutrition, personnel hygiene, teeth care, as well as treatment and follow up of pregnancy, and only few percentages of the women had high total coping level toward psychological and social stressors. **The study recommended** that, carrying out educational program about cardiac disease during pregnancy in MCH centers and outpatient clinics to provide the women with necessary knowledge and daily practices. Regular check and follow up visits in the proper settings. The educational booklet should be distributed and implemented in the antenatal clinic, in the hospital and family health centers. Also further researches is needed to investigate the long –term effect of such educational intervention on improvement of the mothers and her babies.
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Key word: Pregnant woman – Cardiac disease – Outcome – Daily practices.

1. Introduction:

The types of the cardiac diseases during pregnancy includes; congenital, acquired, ischemic cardiac disease, cardiomyopathy, maternal placental syndromes, and hypertension in pregnancy **(Harris, 2017).** Pregnant women who have heart disease have a 100-fold higher mortality than the normal pregnant population, according to new data from the first – ever formal registry on pregnancy and heart disease. Acquired heart diseases are most common in developing countries, these include: rheumatic heart diseases (RHD), cardiomyopathies and ischemic heart disease **(Titia et al., 2013).**

The prominence of cardiac disease in maternal mortality and morbidity is attributed to several risk factors; as age, lifestyle trends as work, way of follow up, diagnosis and treatment options, obesity and tobacco use, physical and psychological stressors. Also, the presence of chronic medicalcondition as diabetes **(Bowater and Thorne, 2016).**

The cardiac disease may affect pregnancy by polyhydraminos, preterm labor, postpartum hemorrhage, abortion, fetal hypoxia and death, small for gestational age, and low Apgar. While, the women with mild and low risk heart lesion can do well during pregnancy, and are adequately evaluated, and receives high quality care, but some women with high-risk cardiac lesion will not tolerate the hemodynamic changes of pregnancy and become worse **(Johns, 2013).**

Pregnancy makes a significant demand on the cardiovascular system. Therefore, it follows that woman with cardiovascular compromise due to cardiac disease needs specialist input and careful management, pre-, peri-, and post-partum. Cardiac disease is the most common cause of indirect maternal deaths and the most common cause of death overall **(Lewis, 2017).**

According to **Mekhemar (2015)** once pregnant women becomes a patient with cardiac disease, she should be seen early in the first trimester by obstetricians to document gestational age. This plays an important role in decisions regarding timing of delivery. Assessment by a cardiologist early in pregnancy also is indicated. Thereafter, patients are seen for prenatal visits every two weeks more frequently if necessary.

The midwifery and the community health nurses can act together and play a central role in working with the patients to promote the best outcome, they act as counselors, assessors, educators, health care providers, advocators, and researchers. A woman in previous studies identifies numerous inhibitors and facilitators in making changes. Nurses may utilize this provided information to assist in helping women to identify obstacles and inhibitors and to develop strategies to initiate health behaviors changes.

Significance of the study:

The incidence of heart disease with pregnancy worldwide is between 0.2 and 3.7%. Rheumatic heart diseases account for about half of the cases, while congenital heart defects are responsible for most of the second half. Maternal mortality in cardiac pregnant patients is 10% worldwide and 8% in Egypt **(Gelson & Johnson, 2016)**. On the other hand, most of the studies about the cardiac disease during pregnancy consider with the medical aspect asdiagnosis, treatment, management and safe delivery, not considered with daily practices and its effect on outcome.

Aim of the study:

- To identify the self-care practices performed by pregnant cardiac women in Zagazig university hospital.
- To find out the birth outcome behind the self-care practices performed by pregnant cardiac women.
- To conduct a mother classes, and provide a handout booklet titled standard self-care practices for educatingcardiac pregnant women.

Research questions:

- What are the self-care practices that will be performed by pregnant cardiac women during pregnancy?
- What are the birthoutcomes that will be behind the self-care practices performed by pregnant cardiac women?

2. Subjects and methods:

Research design:

An exploratorydescriptive design was utilized in this study.

Study setting:

The study was conducted in antenatal high risk ward & outpatient clinic in obstetric department, at Zagazig university hospital. Whereas these settings include the high risk pregnant cardiac women in almost Sharkia governorate, the service provided in this ward includes physical examination, noninvasive test (echo & ultrasound), laboratory investigation, ECG, and follow up.

Study subjects:

A total of 180 cardiac pregnant womenwere collectedover one year period, starting from the 1st of January 2017 to 31 December 2017. Women were eligible for recruitment in the study sample if they met the following inclusion criteria:

- cardiac pregnant woman at second and third trimesters of pregnancy
- free from any other chronic diseases
- diagnosed and registered as cardiac pregnant patient in the pre-mentioned settings

Tool of data collection:

A structured interview questionnaire form was designed for pregnant cardiac women by the researcher based on reviewing related literature and expert opinions, tested for validity and reliability, written in the simple Arabic language, and utilized to collect the necessary data. It entailed three parts:

Part 1: This includes:

- Socio-demographic characteristics such as; age, education, occupation, residence, monthly income.
- Present pregnancy data as; last menstrual period (LMP), expected date of delivery (EDD), weight of pregnant women, type of expected delivery….ect.
- Current pregnancy data regarding practices for receiving services and follow up, and person providing the health education.
- Current treatment regimen as; anti-rheumatic drugs, iron supplements & multivitamins, anti-arrhythmic drugs, anti-hypertensive drugs, anti-coagulant drugs.
- Current pregnancy investigations as; complete blood count (CBC), cardiac enzymes, blood group & RH factor, urine analysis for sugar and albumin, blood sugar, noninvasive test (ECO & ECG), sonar, fetal heart rate (FHR).

Part 11: Self-Care Assessment (SCAS) including:

- Self-care daily living practicesperformed by pregnant cardiac women. It comprised questions related to women's self-care practices in relation to

personal hygiene, teeth care, foot care, nutrition, rest & sleep, exercises, treatment and follow up. Presented in two answers (yes and no).

- Self- care practicesrelated to social and psychological stressors and their coping patterns.

Part 111:

Assessing newborn and labor (outcome): It was completed immediately after birth and follows the ticket for one week after birth. It included an assessment of gestation weeks at delivery, mode of delivery, newborn condition, newborn problems, weight, and length. It is composed of 10 close ended questions in the form ″Yes or No″ answers. Answers were coded ″1 for Yes and 0 for No″. APGAR score also used for assessing the new born condition, it was done at 1st and 5th minutes after delivery, and they were considered healthy if the score is equal or more than "7" and unhealthy if it less than "7"**(Finster & Wood, 2015).**

A scoring system for pregnant women self-reported practices was done as follows, each answer scored as one mark for (Yes) and zero for (No). Total score of self -reported practices had been 40 marks, which represent 100%. Final self-reported practices will be considered satisfactory level if the percent score will be equal to or more than 24 points (60% or more) and unsatisfactory level if less than 24 points (60% or less).

Assessment of social and psychological stressors of cardiac pregnant women this is another part of self-reported practices; the original sheet adopted from **(Fraster, 2003)** and modified by the researcher. It is composed of 15 close-ended questions, and 15 coping strategies itemsto overcome these stressors. Presented in three answers (always, sometimes, and never) and range from ″zero to two″ as follows;0 for never, 1 for sometimes, and 2 for always.

The total scoring of coping patterns equal ″30″ was calculated and interpreted as: A) - women who had a total score from ″0-10″ were classified as having a low coping level. B)-women who had a total score from ″11-20″ were classified as having a moderate coping level. And C) -women who had a total score from ″21-30″ were classified as having a high coping level.

In mother classes; pregnant cardiac women were open, speak comfortably and acceptableand expressed a sincere appreciation for education and handouts that were provided. In addition, the researcher used the computer for show media and printouts.

The educational booklet:

General objective:

At the end of readingthis booklet, each cardiac pregnant woman will be able to: know the basic information concerning cardiac disease during pregnancy.

Specific objectives:

At the end of reading this booklet, each cardiac pregnant woman will be able to:

- Acquire knowledge concerning cardiac disease to improve health and outcome.
- Acquire healthy practices to improve health and outcome.

Content validity and reliability:

The questionnaire was reviewed by a panel of five experts in the fieldof obstetrics and gynecological nursing, community health nursing, and cardiologist from faculty of medicine to test its content validity. Modifications were done accordingly based on their judgment. Cronbach'salpha coefficient was calculated to assess the reliability of the developed toolthrough their internal consistency.

Field study:

Once permission was granted to proceed with the study, the researcher contacted each woman individually in previous mentioned setting and explained to her the purpose and nature of the study.

Upon obtaining her written consent, the researcher started the interview. The interview time ranged from 20 to 25 minutes in the first meeting to fill part 1 & part 2 in the tool, and the another meeting to collect data about the outcome immediately after birth and follow the ticket for one week after birth. Collection of data covered a period of 12 consecutive month from the 1stof January to end of December 2017, three days per week.

Pilot study:

A pilot study was conducted on a sample of 10% of cases who were not included in the total sample size. It was done to test the study tool in terms of clarity and feasibility, and the time required to be applied. Following the pilot study the questionnaire was reconstructed and necessary modifications were done to reach the final form.

Administrative & ethical consideration:

All ethical issues were taken into consideration during all phases of the study; the researcher maintained an anonymity and confidentiality of the subjects. She introduced herself to the woman and briefly explained the nature and aim of the study to every woman before participation, and women were enrolled voluntarily after written consent. Women were also assured that all information obtained during the study was confidential and used for the research purpose only and they have the chance to withdraw from the study when they want.

Statistical analysis:

Data entry and statistical analysis were done using SPSS statistical software package. Data were presented using descriptive statistics in the form of

frequencies and percentages for qualitative variables, and means and standard deviations for quantitative variables.

As for the limitation of the study, the sample size was too small together with the inability to perform statistical equation to select the study sample, because the low rate of women attendance according to the previously mentioned inclusion criteria. This affected the generalization of the study results; however, it gave an overview about the effect of self-care practices on pregnant cardiac women outcome. Provided that, this number of 180 pregnant cardiac woman in this study, is know consider larger than the previous time, because the opening of the new ward of cardiac disease in Zagazig University Hospital.

3. Results:

Table (1): Distribution of The Studied Cardiac Pregnant Women According to Their Socio-Demographic Characteristics (n=180)

General characteristics	No=180	%
Age (years):		
18 < 25	33	18.3
25 -31	93	51.7
≥ 32	54	30.0
Educational level:		
illiterate	6	3.3
primary	30	16.7
secondary	105	58.3
university	39	21.7
Occupation:		
housewife	99	55.0
employee	81	45.0
Residence:		
rural	78	43.3
urban	102	56.7
Monthly income:		
sufficient & save	18	10.0
just enough	39	21.7
insufficient	123	68.3

Table (2): Distribution of the Studied Cardiac Pregnant Women According to Their Practices Regarding Laboratory Investigations (n=180)

Lab. investigation	No (180)	%
Complete blood count (CBC)		
- **Done**	180	100.0
Cardiac enzyme		
- **Done**	150	83.3
- **Not done**	30	16.7
Blood group & Rh Factor	180	
- **Done**		100.0
Urine analysis (sugar & albumin)		
- **Done**	12654	70.0
- **Not done**		30.0
Blood sugar	69	
- **Done**		38.3
- **Not done**	111	61.7
Non invasive test (Echo, ECG)		
- **Done**	180	100.0
Ultrasonography & FHR		
- **Done**	180	100.0

Table (1): Shows the socio-demographic characteristics of the studied cardiac pregnant women. It shows that 51.7% of the studied women were within the age group ranged from 25-31 year. Also 58.3% of the studied women had secondary education and 55.0% of them were housewives. And 56.7% of them were living in urban areas. Concerning family monthly income, 68.3% of the studied women had insufficient income for their basic family demand.

Table (2): Shows distribution of the cardiacpregnant women according to their practices regarding laboratory investigations. This table indicates that all studied women did the complete blood count, blood group, and Rh factor as well as cardiac radiology, ultrasonography and fetal heart rate. Meanwhile, only 16.7% of them did notdo cardiac enzyme.

Table (3): Distribution of The Studied Cardiac Pregnant Women According to Their Practices Regarding Treatment Regimen Used (n=180)

Treatment used	No=180	%
Anti-rheumatic drugs	114	63.3
Iron supplements / multivitamins	120	66.7
Anti-arrhythmic drugs	66	36.7
Anti-hypertensive drugs	63	35.0
Anti-coagulant drugs	9	5.0

Table (4): Distribution of the Studied Cardiac Pregnant Women According to Their Daily Self-Reported Practices (n=180)

Reported practice items	No=180	%
Personnel hygiene		
- **Satisfactory**	15	8.3
- **Unsatisfactory**	165	91.7
Teeth care		
- **Satisfactory**	33	18.3
- **Unsatisfactory**	147	81.7
Foot care		
- **Satisfactory**	0	0.0
- **Unsatisfactory**	180	100.0
Nutrition		
- **Satisfactory**	6	3.3
- **Unsatisfactory**	174	96.7
Practicing exercise		
- **Satisfactory**	0	0.0
- **Unsatisfactory**	180	100.0
Rest & Sleep		
- **Satisfactory**	57	31.7
- **Unsatisfactory**	123	68.3
Treatment & Follow up		
- **Satisfactory**	36	20.0
- **Unsatisfactory**	144	80.0
Total reported self-practices score level		
- **Satisfactory**	0	0.0
- **Unsatisfactory**	180	100.0

Table (3): Indicates 63.3% of the studied cardiac pregnant women used anti-rheumatic drugs. Also, 66.7% of the women used iron supplements and multivitamins. Meanwhile, 36.7% & 35.0% respectively of the studied women used anti-arrhythmic & antihypertensive drugs.

Table (4): indicates (100.0%, 100.0%, 96.7%, 91.7%, 81.7%, 80.0%) respectively of the studied cardiac pregnant women had unsatisfactory score levels of reported practices related to practicing exercise, foot care, nutrition, personnel hygiene, teeth care, as well as treatment and follow up of pregnancy.

Table (5): indicates that, 86.7% of the studied cardiac pregnant women had full term pregnancy. Also, the same percentage 86.7% of the women had conducted normal vaginal delivery, followed by 11.6% had conducted cesarean section. On the other hand, 90.0% of the women had normal live baby. Only (6.7% & 3.3%) of them respectively had congenital anomalies and stillbirth.

Regarding the newborn problems, the table shows that, the highest percentages of the problems were tachycardia and blue skin color, followed by poor feeding and sucking, then weak muscle tone, and finally poor crying (27.6%,27.6%, 24.1%, 15.5% & 5.2%) respectively. According to Apgar score (18.3%) of the studied women had delivered babies with unhealthy Apgar score less than 7.

Table (6): clarifies that, 84.5% of the newborn birth weight ranged from (2500-3500 gm) that lied within normal range of the weight. Also, 72.4% of the women had babies length ranged between (48-53 cm).

Figure (1): illustrates that, about 76.7% of the studied women received antenatal care. On the other hand, 71.7% of them maintain regular follow up. Also, this figure displays that 56.7% of the studied cardiac pregnant women reported that doctors are suitable persons for providing health education. Meanwhile, 38.3% of them reported that nurses provided health education.

Figure (2): demonstrates that, (56.7% & 63.3%) of the studied women had high level of psychological and social stressors. Concerning the total coping level of psychological and social stressors, this figure elaborates that only 3.3% of the women had high total coping level in this study.

Table (5): Distribution of The Studied Cardiac Pregnant Women According to Newborn & Labor Outcome (n=180).

Outcome	No=180	%
Gestational weeks at delivery		
Full term	156	86.7
Pre term	24	13.3
Mode of delivery		
Normal vaginal	156	86.7
Caesarean section	21	11.6
Others (Vento's & forceps)	3	1.7
Newborn condition		
Normal live	162	90.0
Congenital anomalies	12	6.7
Still birth	6	3.3
Apgar score		
- **3-6**	33	18.3
- **7-10**	147	81.7
Problems of newborn (no=174)		
Tachycardia	48	27.6
Blue skin color	48	27.6
Poor feeding & sucking	42	24.1
Weak muscles tone	27	15.5
Poor crying	9	5.2

Table (6): Distribution of The Studied Cardiac Pregnant Women Regarding Weight and Length of Their Newborn (n=174).

Weight/Length	No=(174)	%
Less than 2500 gm	27	15.5
2500-3500 gm	147	84.5
Less than 48 cm	42	24.1
48-53 cm	126	72.4
More than 53 cm	6	3.5

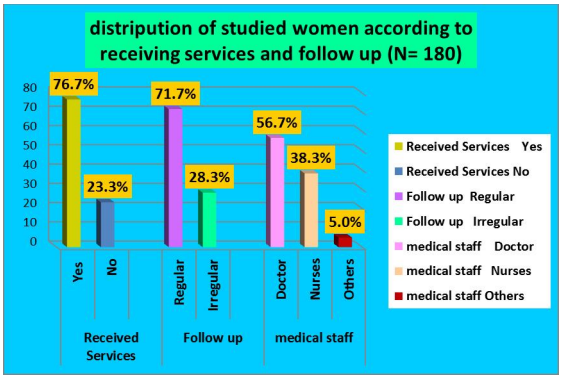

Figure (1): Distribution of The Studied Cardiac Pregnant Women According to Their Practices Regarding Receiving Services and Follow up (no=180)

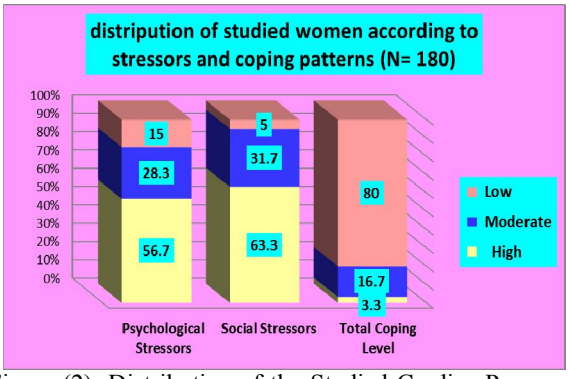

Figure (2): Distribution of the Studied Cardiac Pregnant Women According to Their Psychological and Social Stressors and Their Coping Pattern (no=180)

4. Discussion:

Self-care practices in pregnant cardiac women are a key concept in health promotion that involves the activities affecting the health of mothers, fetus and newborns. Health practices are important for the result of pregnancy and should be determined and gained during prenatal care **(Miyake et al., 2014).**

This study was intended to identify self-care practices utilized by pregnant cardiac women in Sharkie Governorate, and its associated pregnancy outcome, also conducting a mother classes and provide a handout booklets for vulnerable women. The study was conducted in antenatal high risk ward and outpatient clinic, in obstetric department, at Zagazig University Hospital.

Women socio–demographic characteristics play a great role in practicing healthy behavior and they affect their health either positively or negatively **Aziz and Maqsood (2016).** The present study finding revealed that, the highest percentage of the pregnant cardiac women situated in the age group (25 - 31) year, which was (51.7%) (table 1). This may be due to most women with heart problems were married in the middle age of years and have late pregnancy as well as fear from any complications that occurred in young age. This finding is in agreement with a study conducted in Brazil, about quality of life in pregnant women with heart diseases by **Meneguin and Xavier (2013)** who reported that the mean age was 28.6 ± 5.63 years.

In relation to educational level, income and residence the present study findings revealed that more than half of the studied women had secondary education, had insufficient income for their basic family demands and they were from urban areas. This finding is in agreement with a study about the stressors and coping strategies among cardiac pregnant women, Faculty of Nursing, Ain-Shams University, Egypt by **Farag (2005)** who, reported that more than half of the studied women had intermediate education and more than half of them were living in urban areas and they had insufficient income.

The present study results showed that more than half of the studied women were housewives; it may be due to the health condition of cardiac pregnant women not allow doing over or hard activities. This finding is in agreement with **Farag (2005)**, who found that most of the cardiac pregnant women were housewives. While, this finding comes incongruence with **Meneguin and Xavier (2013)**, who showed that the majority of participants had a formal job.

As regard medications used (table 3), the present study findings showed that more than two thirds of the studied women used (long acting penicillin) as anti-rheumatic drugs, and more than one third of them used anti- arrhythmic, anti-hypertensive drugs. On the other hand, more than two thirds used iron supplements and multivitamins. This could be explained that cardiac pregnant women compliance with drug regimens during pregnancy to improve maternal and fetal circulation under medical supervision. This result was in disagreement with the study conducted by **Makino et al. (2012)** in Japan about risk factors associated with preterm delivery in women with cardiac disease, who reported that the cardiac medication used by pregnant cardiac women constituted 3.2% diuretic, 2.2% digoxin, 1.2% antihypertensive, and 1.0% warfarin.

In relation to laboratory investigations (table 2), the present study findings indicated that all studied women did complete blood count, blood group and Rh factor as well as noninvasive test (cardiac radiology, ultra- sonography, and fetal heart rate). This may reflect to availability of the antenatal care in this setting of the study, and increase awareness of studying women about the importance of follow up for antenatal care. This finding was in accordance with **Mohy-Eldine (2014)** who mentioned that, most pregnant women made laboratory investigations as blood group, hemoglobin, Rh factor, urine and blood sugar.

As regards follow up, the present study findings revealed that the majority of the studied women had regular follow up (figure 1). Because the cardiac disease is a danger to pregnancy and most of cardiac pregnant women maintain regular visits and take care. However, close follow up of women with cardiac diseases will improve maternal tolerance of the cardiovascular burden imposed by pregnancy, promote fetal growth and neonatal survival, and enable adjustments to cardiovascular changes in the post-partum period. This finding was in agreement with the study conducted by **Zahra (2012)** in Qalubiya governorate, about quality improvement of maternal health care in maternal and child health center, who emphasized that most of the studied cardiac pregnant

women regularly, attended the antenatal clinic for follow up.

As for the suitable person for providing health education about cardiac disease the present study findings revealed that, more than one half of the sample reported doctors, and more than one third of them reported nurses. This finding was in disagreement with **Ranimah et al. (2012),** who reported that slightly more than one quarter of cardiac women obtained the cardiovascular disease information from health care workers.

Regarding the reported total practices score levels of the studied women about cardiac diseases, the present study results revealed that, 100.0% of the studied sample had unsatisfactory total reported practices score level (table 4). This finding was in agreement with **Rosediani et al. (2012),** who clarified that the self- reported practice on cardiovascular disease on healthy lifestyle was very poor among women in the North-East coast of Malaysia.

As regards psychological and social stressors of cardiac pregnant women (figure 2), the present study findings revealed that, more than half of the studied women had high levels of psychological and social stressors. This could be explained that the studied women expresses about the internal feeling during the educational sessions and feel assured about the psychological, social condition as well as the pregnancy outcome in the future.

Concerning the total coping level of psychological and social stressors, finding showed that most of the studied women had low total coping level. This may be due to poor knowledge and reported practices among the studied women. This finding was in agreement with **Farag (2005),** who asserted that the majority of the studied women could not highly cope with stressors of cardiac disease during pregnancy.

According to the newborn outcome, the present study findings revealed that, the majority of the studied women had a full term and normal live babies (table 5). This finding is in agreement with the study conducted in India about clinical profile and obstetric outcome in pregnancies complicated by heart disease by **Bagde et al. (2013)** who reported that, the majority of gestationalages were full term at time of delivery, were between 37-42 weeks. Also, **Diao et al. (2011)** who found that most of fetal outcome for pregnant women with heart disease were normal live births, and few of them had preterm. This agreement of the two previous studies may reflect the advanced worldwide in management of the pregnant women with cardiac disease includes the medication effect and new technology for the treatment of cardiac disease in pregnant women.

As regards mode of delivery, the present study results revealed that the majority of the women had delivered by normal vaginal mode. This may be due to most pregnant women with cardiac disease preferred delivery by vaginal mode with episiotomy to shorten the second stage of labor compared to caesarean section as well as the previous delivery of them was through the same mode. This finding is in the same stream with **Bagde et al. (2013)** who found that more than two thirds of the women had spontaneous vaginal delivery and less than one third of them had delivered by caesarean section.

In relation to Apgar score the present study findings revealed that, the majority of the studied women born babies with good Apgar score between (7-10). This finding is in the same line with a study conducted on pregnant cardiac women at Faculty of Nursing Zagazig University, Egypt, by **Elsabagh and Zaiton (2013)** who stated that the mean of Apgar score at 5 minutes was 8.04±1.65. This may be explained that the improved fetal outcome due to the presence of specialists during labor as obstetrician, cardiologist, anesthetists, hematologist, nurses, and neonatologist.

Concerning the newborn birth weight the present study findings showed that, the majority of birth weight were within the normal weight of the newborn (table 6). This finding is in agreement with **Taha et al. (2013)** who found that the mean birth weight was 2513.7±922.2 Kg. On the other hand, **Elsabagh and Zaiton (2013)** who reported that the mean of birth weight was 2897±838 Kg among patients with cardiac disease in pregnancy.

Conclusion:

The study showed that the studied cardiac pregnant women had unsatisfactory score levels of reported daily practices related to practicing exercise, foot care, nutrition, personnel hygiene, teeth care, as well as treatment and follow up of pregnancy, and only few percentages of the women had high total coping level toward psychological and social stressors.

Recommendations:

- Carrying out educational program about cardiac disease during pregnancy in MCH centers and outpatient clinics to provide the women with necessary knowledge and daily practices.
- Regular check and follow up visits in the proper settings during pregnancy.
- The educational booklet should be distributed and implemented in the antenatal high risk ward & outpatient clinic, in the hospital and family health centers.
- An also further research is needed to investigate the long –term effect of such educational intervention on improvement of the mothers and her babies.

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Appendix

نموذج إرشادي حول ممارسات العناية الذاتية أثناء فترة الحمل للسيدات الحوامل المصابات بمرض القلب

أولا: معلومات عن مرض القلب

- ✓ **القلب بأمراض المقصود هي:** تصلب الشرايين، عضلة القلب ضعف، ارتفاع ضغط الدم، الجلطة القلبية.
- ✓ **أمراض القلب تتمثل في:** أمراض الشرايين، عضلة القلب ضعف، أمراض القلب التاجية، ارتفاع عن الناتج القلبي مرض، والدموية والأوعية مرض، الحمل أثناء الدم ضغط إرتفاع، الدم ضغط إلتهابي القلب، صمامات مرض وأيضا القلب.
- ✓ **أسباب أن وعوامل القلب أمراض الخطر هي:** التاريخ بمرض الإصابة، الدم ضغط ارتفاع، العائلي، الحركي النشاط قلة، الوزن زيادة، السكر، الإكتئاب وأيضا، السلبي والتدخين التدخين.
- ✓ **أعراض وعلامات القلب:** باختلاف تختلف أو اليمني اليد في ألم تكون وقد القلب مرض نوع، الرقبة اوردة انتفاخ، الصدر في الم، الظهر بالغثيان الشعور، إغماء، (الجلد زرقة) إزرقاق أو الإستلقاء عند التنفس صعوبة، والدوار النبض في خلل وأيضا، النوم من الصحو.

- ✓ **الحامل السيدة لها تتعرض التي المضاعفات بالقلب المصابة:** الإحتقاني القلب فشل هي توقف أو القلبية النوبة، القلب في حاد وهبوط القلبية والسكتة الدماغية السكتة، فجأة القلب بالقلب المحيطة الشرايين أمراض، المفاجئة الشريان إنسداد، الرئوي الشريان إنسداد، صدمة، الشرياني الدم ضغط ارتفاع، الميترالي مبكرة ولادة أو إجهاد.
- ✓ **الجنين لها يتعرض أن ممكن التي المضاعفات:** الميعاد بعد طفل ولادة، الميعاد قبل طفل ولادة نمو تخلف، خلقية عيوب، الوزن ناقص طفل أو، الرحم الجنين داخل موت أو، الرحم داخل الجنين في مشاكل أيضا، المشيمة إنفصال، الولادة بعد التنفسي الجهاز.
- ✓ **أثناء القلب أمراض لتشخيص المهمة الفحوصات الحمل:** ضغط قياس، للقلب صورة، القلب رسم، الدموية والأوعية للقلب البدني الفحص، الدم الموجات، الدم فحوصات، بالمجهود القلب رسم أشعة، القلب قسطرة، القلب على الصوتية

- مشكلة بأي الشعور عند الطبيب الي الرجوع صحية

التغذية:

- العناصر جميع علي يحتوي صحي طعام تناولي الغذائية
- أوقاتها في يةاءالغذ الوجبات تناول في الإنتظام، ومتعددة خفيفة وجبات تناول مع
- الصحية الحالة حسب الموصوف الطعام تناولي، والحراق المسبك وعدم المسلوق ويفضل
- هناك كان إذا خصوصا الطعام في الملح من قللي الدم ضغط في إرتفاع
- لأنها التونة مثل البيضاء السمك لحوم من الإكثار للقلب مفيدة
- من الإكثار ،والفاكهة الخضروات تناول من الإكثار الخضراء السلطة
- والبقوليات الحبوب مثل الكربوهيدرات تناولي وجبات علي وتوزع الأسمر والخبز
- الدسم عالي والحليب والحلويات السكريات تقليل
- و أوالمشبعة الحيوانية الدهون عن الإمتناع والذرة الزيتون زيت مثل نباتية بدهون التعويض الشمش ودوار
- وجبات 3 ،إسبوعيا حمراء لحوم واحدة وجبة تناول 3 ،الجلد منزوعة ومشوية مسلوقة وطيور دجاج سمك وخصوصا إسبوعيا الأسماك من وجبات البيض وتناول ،والسردين والتونة السالمون صفار بدون.
- الإمكان بقدر المقلي الطعام تجنب
- والإستاكوزا الجمبري من المتناولة الكميات تقليل الكوليسترول عالية والكابورياو
- مرتين من أكثر الطعام قلي في الزيت إستخدام عدم ودوار والذرة الزيتون زيت استخدام ويفضل القلي فيالشمش
- يوميا المكسرات من صغيرة حفنة تناول
- والحديدوحمض بالكالسيوم الغنية الأطعمة تناول الفوليك
- والعصائر والسوائل الماء من كبيرة كمية تناول بجوي ،الغازية السوائل شرب تجنبي ،الطبيعية أو الكلي أو بالقلب هبوط وجود عند الكمية تحديد أخري موانع أي
- الجهاز حماية علي يساعد والمشروم الثوم تناول كذلك والمخ العام المزاج تحسين ،والقلب الدوري المفاصل إلتهابات من يقلل

والملابس الشخصية النظافة:

- صيفا الإسبوع أيام طوال لإستحمام
- شتاءا الإسبوع أيام بعض جزئي حمام عمل
- ومصنوعة للحمل مناسبة فضفاضة ملابس إرتداء القطن من
- استخدام عند يوميا العانة منطقة بنظافة القيام الحمام
- أي وجود عند والمطهرات الدافئ الماء إستخدام طبيعية غير إفرازات أو التهابات

بالأسنان العناية:

- ✓ بحركة يوميا السواك أو بالفرشاة الأسنان غسل ىلأعل أسفل ومن لأسفل أعلي من دائرية
- ✓ مشاكل أي وعلاج الأسنان لفحص للطبيب الذهاب بالفم

أخذ ،المغناطيسي بالرنين التصوير ،مقطعية الضرورة عند القلب من عينة.

- ✓ الجسدية الراحة **:في تتلخص القلب أمراض وعلاج** ،الرياضية التمرينات ،الغذائي النظام ،والعقلية لضربات منظم جهاز تركيب ،بالأدوية العلاج الحمل أثناء للقلب عملية ،(اسميكرالب) القلب.
- ✓ وقف **:القلب أمراض من السبعة بالمنجيات وإليكي** ساعة نصف ،الوزن علي المحافظة ،فورا التدخين 75 أطفال أسبرين قرص ،أسبوعيا مرات 5 مشي 2 ،يوميا هـ فيتامين كبسولة ،يوميا مليجرام تناول ،يوميا الريق علي كبسولة أو ثوم فص يوميا تفاحة.
- ✓ **لخفض البديل الطب في العلاجات بعض هناك** ،البيضاوي الحمل لسان نبات مثل :**الكولستيرول** الأحماض ،الشوفان ونخالة الشوفان ،الكتان بذور لأخضرا الشاي ،الدهنية.
- ✓ عليك ينبغي:**القلب في مرض أي لديك كان إذا** قبل الصحية حالتك وتقييم الطبيب إستشارة له والتخطيط القادم الحمل.
- ✓ **الشائعة القلب مرض أعراض علي التغلب كيفية فورا عنها والإبلاغ الحمل أثناء:**

- ووضع نصفي وضع في الجلوس :التنفس ضيق الظهر خلف وسادة
- والاتصال فورا العلاج أخذ :الصدر في ألم بالطبيب
- الرأس رفع وعدم الضغط قياس :الأنف نزيف إلي والوصول الدم يتوقف حتي لأعلي المستشفي
- وإبلاغ مريح وضع في الجلوس :والإغماء الدوار الإسعاف
- الطبيب وإستشارة وصوفمال العلاج أخذ :الصداع
- أدوية ،ساخنة سوائل شرب :والخناق يليلال السعال
- ،جالسة نصف وضع في كوني ،للسعال مهدئة بالطبيب الإتصال
- تنظيم علاج أخذ :القلبوالخفقان ضربات زيادة الطبيب وإستشارة القلب ضربات

- ✓ **بعد تحدث التي المنذرة والأعراض المخاطر أهم** ضيق :**القلب بمرض المصابة للأم ةالولاد** بعد الغزير النزيف ،بالصدر ألم ،التنفس الحرارة درجة إرتفاع ،الساقين جلطة ،الولادة الدم ضغط إرتفاع ،ورعشة.
- ✓ ملاحظة ،تدفئتة **:كالأتي الجديد بمولودك الإهتمام** الطبقة ملاحظة ،القلب وضربات التنفس العناية ،عليها والحفاظ الجلد علي البيضاء حمام ،المنعكسة الأفعال ردود ملاحظة ،بالسرة بدء ،الطفل لنوم المناسب الجو توفير ،الطفل أمكن إن الطبيعية الرضاعة.

المصابة الحامل للأم اليومية الصحية الممارسات ثانيا

الحمل فترة أثناء القلب بمرض:

والعلاج المتابعة:

- العلاج أخذ بمواعيد مإتزإل
- لكي توصف التي الفيتامينات خذأ
- إسبوعيا الضغط قياس متابعة
- الحمل ومتابعة الزيارة مواعيد علي الحرص
- القلب رسم وعمل المطلوبة التحاليل بعمل القيام

بالقـــدمين العنايـــة:

- ✓ مســتمرة بصـــفة القـدم فحـص
- ✓ والصـــابون الـــدافئ بالمـــاء القـدم سلغ
- ✓ للقـدم المرطب الكـريم اسـتخدام
- ✓ باســتمرار القـدم أظـافر تقليـــم
- ✓ الصـــحية ولحالتـــك للحمـل ومـريح مناسـب حذاء أرتـدي
- ✓ فـي مشـاكل وأي التهابـــات أي لعـلاج للطبيـــب الذهاب القـدم

الرياضـــة:

- ✓ يوميـــا ساعة نصـف لمدة المشـي ممارسة
- ✓ للـــرجلين مساج
- ✓ العنيفـــة الرياضـــة ممارسة تجنـب

والنـوم الراحة:

- ✓ 6 و ،الظهـيرة وقـت 2 ،يوميـا سـاعات 8 الأقـل علـي الإجهاد وعدم الراحة مع ,الليـل أثنـاء سـاعات

النفســـية الضـــغوط مع والتكيـــف التغلـــب كيفيـــة ثالثـــا والإجتماعيـــة

- ✓ الراحة من كافيـــة أوقـات خذي
- ✓ والأقـارب الأهل من الأخـرين مع تحـــدثي
- ✓ أخري بمهـام نفســك إشــغلي
- ✓ بـالمرض نفســك تشـــغلي ولا الله الـي تقـــربي
- ✓ والإســـتفادة للأخـرين المفيـدة بالنصـــائح العمـل مشـاكلك حل فـي منهم
- ✓ البســـيطة الرياضـــية التمرينـــات بعـض عمل
- ✓ والحمل القلـب مرض عن تفيـــدك معلومـات عن البحـث
- ✓ القلـــق علـي للتغلـــب حولـك من الأشـــياء تغـير
- ✓ التلفـــزيون شاهدي
- ✓ الحمل ومتابعـــة العـلاج أخذ فـي انتظمـي
- ✓ بنفســـك مشـاكلك تحلـي أن حـاولي
- ✓ للبكـــاء اللجـوء
- ✓ التنفـــس تمـارين مارسي
- ✓ أخذ الأغـاني سماع مثـل الإســترخاء وسـائل إسـتخدمي شـاور
- ✓ أسـرتك مع تحـــدثي
- ✓ التســوق متعـة اســتخدمي
- ✓ الجديـد الطفـل إســـتقبال فـي نفســك اشـغلي وإحتياجاتـــة لبســـة وتجهـيز

12/25/2018