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Original Article

Identifying and Responding to the Sexual Reproductive Health Needs of Women with Heart Disease: A Qualitative Study

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Abstract

Background: Recognizing the needs of women with heart disease in the field of reproductive health and meeting them can reduce the related complications. The aim of this study was to identify the sexual and reproductive health needs of these women. **Materials and Methods:** The present study was conducted with qualitative approach (Content analysis). Ten married women of reproductive age with heart disease and 20 providers and managers in, Isfahan, Iran, were selected by using purposive and snowball methods (in 2020). The research setting included heart disease clinics, offices of health team, comprehensive health centers, and the Isfahan Maternal Health Department. Data were collected by semi-structured individual face-to-face interviews in the clinic or other appropriate locations. Some interviews were conducted virtually. Analysis was performed by Qualitative contentment analysis / Conventional content analysis. **Results:** Sexual and reproductive health needs of women with heart disease were emerged in five main categories, "planned childbearing," "ssociocultural support," "Early reproductive health care of girls," "health team attention to sexual health," and "health system revision." **Conclusions:** Providing comprehensive reproductive health services before and during pregnancy, family planning, and sexual health for women with heart disease is necessary. It seems that using a multidisciplinary team approach could improve their reproductive health.

Keywords: *Heart, Iran, preconception care, qualitative research, reproductive health*

Introduction

Women with heart disease are more at risk for reproductive-related problems than healthy women. Increased survival of the girls with congenital heart disease,[1] together with the increased age of marriage and delayed childbearing have increased the simultaneity of the heart disease concurrence with fertility processes.[2] The overall prevalence of heart disease in pregnancy is 1–4%.[2,3] This prevalence in Isfahan is estimated to be 1.57%.[4] Owing to the interaction of heart disease and fertility process, various aspects of the reproductive health of women with heart disease are at risk. For instance, pregnancy in women with heart disease is associated with dangerous complications. Fifteen to twenty-six percentage of maternal mortality worldwide are caused by heart disease.[2,3] Based on the results of a study conducted in Yazd, Iran, 20% of maternal deaths were due to heart disease.[5] Besides maternal mortality, there is a risk of other pregnancy complications such as heart failure,[2] increased heart disease classification, and increased postpartum hemorrhage[6] in these patients.

Preconception Care (PCC) and contraception are two important elements of reproductive health. Despite the effect of PCC on pregnancy outcome, especially in high-risk women, according to studies, most women with heart disease (37% and 50%) did not receive this service.[6,7] In another study, the rate of unwanted pregnancies in women with heart disease was 25%.[8] Besides, women with heart disease experience many adverse pregnancy outcome, a planned pregnancy is necessary for them. Sexual health is another important element of reproductive health.[6] The rate of sexual dysfunction in these women was reported to be 25–41% in some studies,[9,10] while it was 90% in another study.[11] Despite the existence of sexual dysfunction in women with heart

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disease, only 16% of cardiologists check sexual health of these women at their visits.[12,13] Therefore, it seems necessary to improve the reproductive and sexual health of these women by identifying their needs and problems.

Some studies have identified the reproductive health needs of these women as the need for PCC,[14,15] patient training,[16-18] medical team training,[12,19,20] and the integration of reproductive services in routine heart visits.[12,21] Identification of the sexual and reproductive health needs of these women can be a step toward the promotion of women's health. Accordingly, considering the sociocultural and health structure of Isfahan city, the present qualitative study was conducted to identify the sexual and reproductive health needs of women with heart disease.

Materials and Methods

This study is part of a mixed-methods study entitled "designing and evaluating of a reproductive health promotion program for women with heart diseases." Using conventional content analysis method, this qualitative study (from July to November 2020) was conducted to identify the reproductive and sexual health needs of women with heart disease. The research setting included heart disease clinics, offices of cardiologists and obstetricians, comprehensive health centers, and the Isfahan Maternal Health Department. The participants included women with heart disease referred to these centers as well as members of the health team and related managers. The women with heart disease were in the reproductive age, married, nonpregnant, able to conduct interviews, Iranian, able to speak Persian fluently and willing to participate in the study, and members of the health team and managers had at least 2 years of experience in a profession related to the subject of the study.

Using purposive and snowball sampling methods, the participants were selected based on the inclusion criteria until data saturation was reached. This means that no new code was added to the previous code with the new interview. In the process of sampling, maximum variation was observed in terms of age, type of heart disease and pregnancy history, and managerial position. Finally, 10 women with heart disease and 20 reproductive health providers and managers were selected. In-depth semi-structured individual face-to-face interview was used as data collection method. The place of the interview was determined based on the opinion of the participants in the clinic or other appropriate locations. Given the conditions of COVID-19 pandemic, some interviews were conducted virtually.

For data collection, the researcher referred to the research setting and selected the participants after obtaining the necessary permits. After obtaining the consent of the individuals to participate in the study, the time and place of the interviews were determined by their agreement. A quiet and private place was chosen for the interview. Before the interviews, written consent was obtained from the participants. Interviews were directed by guiding questions. The women's interview began with general questions such as "Talk about the first time you notice your heart disease" and then continued with questions such as "Did this disease affect your marital life?" The interviews of the health team also began with general questions such as "What experiences do you have with sexual and reproductive care for women with heart disease?" And continued with questions such as "How do you assess the reproductive health status of these women?" The interview of the managers also began with general questions such as "How do you see the situation of women with heart disease in the reproductive health planning process?" And continued with questions such as "How is the state of health service provision in this area?" The interviews lasted about 30–90 minutes. During the interview, the researcher tried to find in-depth information about the topic by establishing a deep relationship with the participants and probing. The researcher also used field notes (observations, hearings, and the participants' moods and nonverbal behaviors), taking notes of available documents, related files and statistics, and existing structures and systems, such as prevalence of reproductive age women with heart disease referred to comprehensive health centers, the number of women with heart disease who requested PCC in the heart and pregnancy clinic, and written reports of maternal mortality or near-missed mothers. To obtain this data, the researcher, after coordination with the relevant authorities, evaluate sources related to this data and extracted the necessary needs. This information was analyzed beside the results of the interviews. The analysis was performed simultaneously with data collection using the conventional qualitative content analysis method in an inductive manner and based on the Elo and Kyngäs method (preparation, organization, and reporting stages).[22] After listening to each interview, it was transcribed verbatim and the written text was read several times so that the researcher can gain an in-depth view of the data. In this stage, the analysis unit was selected (preparation stage), the reciprocal movement between the data collection and analysis enriched the study, concise and compressed meaning unit was formed, and its important items were selected as key codes and concepts. The codes were grouped according to their relationship with each other and placed in subcategories (organization). After the classification of the subcategories, the main categories appeared and the results were reported. The initial coding was done by the principal investigator and then reviewed and confirmed by three members of the research team.

Credibility of data was confirmed by conducting in-depth interviews, long engagement with the subject, appropriate communication with participants, choosing the interview location according to the participants' opinions, observing

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maximum variation in selecting the participants. Conformability of the findings was established through using several data collection methods and presenting interview results to the participants for review, review of the results by the research team colleagues (they read and gave feedback to the researcher). To ensure dependability, data collection and analysis were performed concurrently and these processes were continued until the codes and categories were obtained. To ensure transferability, the categories extracted from the results were reviewed by four participants (one patient, two health team members, one health manager) who had characteristics similar to those of the participants and were not present in the study, and their opinions were found to be consistent with the results of the study.

Ethical considerations

Ethical considerations were observed by obtaining written consent from the participants, the permission to participate freely in the study and the right to withdraw from it, the confidentiality of the results, and reporting them without mentioning the names of the participants. The study was approved by the ethics committee of Isfahan University of Medical Sciences with the code of IR.MUI.RESEARCH.REC.1399.061.

Results

The present study explained the sexual and reproductive health needs of women with heart disease. The characteristics of the women participating in the study and also health team members and health managers are presented in Tables 1 and 2, respectively. Initially, 810 codes were extracted, then 220 codes were deleted or integrated. The results were presented in 10 subcategories and 5 main categories expressing the needs of sexual and reproductive health [Table 3].

Planned childbearing

Descriptive analysis of the participants showed that PCC of women with heart disease had many deficiencies such as lack of full access to this care and no intention to receive it. Moreover, women with heart disease do not have adequate protection against unwanted pregnancies. By integrating these two issues, the main category of "planned childbearing" was extracted.

Lack of access or intention to preconception care

Patients with heart diseases acknowledged the lack of full access to PCC. As one of them said: "*I had no access to a specific center for get permission for pregnancy*" (P14).

The participants acknowledged also that women with heart disease do not usually come for PCC. "*Most heart patients do not come for PCC. They only come to us when they become pregnant. They usually do not pay enough attention to this issue*" (P22).

Unwanted and unplanned pregnancy

Furthermore, the members of the reproductive health team emphasized that some women with heart disease do not use reliable and safe contraceptive method and are at risk for unwanted pregnancy. "*Some women with heart diseases become pregnant without a plan as they do not have an effective method of contraception. They need to plan their pregnancy*" (P5).

Socio-cultural support

According to the participants, women in sociocultural context face problems such as "Eliminate family force for pregnancy" and "reduce psychological turmoil and increase husband participation." Thus, sociocultural support seemed necessary for these women.

Eliminate family force for pregnancy

Some of the participants mentioned that women with heart disease are forced to become pregnant to maintain their marital life and because of their husband's mindset, which leads to a high-risk pregnancy. *"My husband does not understand that I should not get pregnant because of my heart disease. He says he will divorce me if I don't get pregnant. So, I'm ready to get pregnant even if I die; I don't want to get a divorce" (P13).*

The members of the health team emphasized improving the attitude of the society in this regard. "*In order to these women not to be forced into high-risk pregnancies, people's mindsets*

Table 1: Personal characteristics of women with heart diseases participating in the study

ID	Age	Education	Occupation	Number of pregnancy	Type of heart disease	Duration of heart diseases (years)
P2	39	Masters	Employee	1	Tachycardia	5
P6	32	Under diploma	Housewife	3	Cardiomyopathy	3
P9	30	Diploma	Housewife	1	Mitral stenosis	15
P13	32	Under diploma	Housewife	3	Aortic coarctation	25
P14	29	Diploma	Housewife	1	Heart valve replacement	16
P15	40	Diploma	Housewife	3	Mitral stenosis	20
P16	18	Diploma	Housewife	0	Heart valve replacement	10
P28	23	Bachelor	Housewife	0	Aortic stenosis	8
P29	31	Diploma	Housewife	1	Arrhythmia	6
P30	45	Bachelor	Housewife	3	Heart valve replacement	15

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Table 2: Personal characteristics of health team members and health managers participating in the study

ID	Duration of employment	Education	Occupation
P1	20	Ph.D.* of reproductive health	Health team member
P3	16	MS** in midwifery	Health team member
P4	22	MS in health	Health manager
P5	28	Obstetrician	Health team member
P7	27	BS*** in midwifery	Health manager
P8	7	Cardiologist	Health team member
P10	15	MS in health	Health manager
P11	4	Cardiologist	Health team member
P12	12	Sex therapist	Health team member
P17	10	BS in midwifery	Health team member
P18	24	MS in midwifery	Health manager
P19	25	Ph.D. of reproductive health	Health team member
P20	15	Obstetrician	Health team member
P21	4	Cardiologist	Health team member
P22	28	Obstetrician	Health team member
P23	30	Cardiologist	Health team member
P24	18	Obstetrician	Health team member
P25	24	MS in midwifery	Health manager
P26	17	Psychiatrist	Health team member
P27	20	Ph.D. of reproductive health	Health team member

*Philosophiae Doctor **Master of sciences*** Bachelor of sciences

Table 3: Sexual and reproductive health needs of women with heart disease

Subcategory	Main category
Lack of access or intention to preconception care	Planned childbearing
Unwanted and unplanned pregnancy	
Eliminate family force for pregnancy	Socio-cultural support
Reduce psychological turmoil and increase husband participation	
Reproductive health care of girls	Early reproductive health care of girls
Specific premarital counseling	
Resolve the concerns in sexual relations	Health team attention to sexual health
Reduce the confusion of women in receiving sexual counseling	
Improve knowledge, attitude and performance	Health system revision
Improve continuity and team working	

need to be corrected. Everyone should know that a woman who is very high risk for pregnancy should not get pregnant" (P1).

Reduce psychological turmoil and increase husband participation

Additionally, women with heart disease were very disturbed about the consequences of pregnancy and felt helpless and lonely, especially because of lack of husband participation.

One of them said she was more stressed as she could not talk about her problems with others. "*When I was pregnant, I was afraid that my heart disease would get worse or it would be inherited by the fetus. There was no one to support me emotionally. My husband had no participation*" (P9).

The health team acknowledged that these women do not have enough self-confidence. "*A woman with heart disease is concerned how to talk about her problem before marriage. Also, there may be disagreements between the wife and her husband over the decision to become pregnant and the choice of contraceptive method*" (P20).

The reproductive health providers emphasized that the health system should provide psychological support to these women so that they can acquire the resilience required to resolve psychological and couple relationship disorders. "*We should have a counseling support program for women with heart diseases to prevent their psychological disorders as well as any harm to their family life*" (P27).

Early reproductive health care of girls

Girls with heart disease currently have two needs: "Reproductive health care of girls" and "Specific premarital counseling." Therefore, early care for the reproductive health of these girls was emphasized.

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Reproductive health care of girls

Members of the reproductive health team, participating managers, and patients believed that schools do not have programs for girls with heart disease, especially in the areas of reproductive health. "*Although the need to provide reproductive health services to these girls starts at school, we do not have a specific program for it in schools*" (P4).

Furthermore, the health system does not provide education services in the area of reproductive health for these girls and their parents. "*When I was an adolescent, I didn't know whether or not my disease affected my reproductive issues. No one gave me any related information*" (P29).

Specific premarital counseling

The results of this study showed that there is no specific follow-up by the health system in the area of reproductive health of the girls with heart disease when they are about to marry. "*After the primary diagnosis of heart disease for these girls, they have to go to private cardiologist to continue their treatment. Reproductive health counseling is not part of the health system program for them*" (P10).

Members of the reproductive health team believed that these girls get married without receiving any specific consultation for heart diseases. "*We don't have specific education about heart problems for these girls who are about to marry*" (P17).

Health team attention to sexual health

Data analysis led to two important needs: "Resolve the concerns in sexual relations" and "Reduce the confusion in receiving sexual counseling," indicating the significance of paying attention to the sexual health of these women.

Resolve the concerns in sexual relations

Women with heart disease had little knowledge of sexual issues and were concerned about solving their sexual problems. "*My husband and I have a lot of problems about sexuality. We need information*" (P6).

These women are at risk of family breakdown and divorce due to the adverse consequence of heart disease on their sexual relationships "*These women are worried about the negative impact of sexual function on their heart diseases and therefore they have sex-related issues with their husbands. They worry that unsatisfactory sex may force them to divorce*" (P1).

According to an obstetrician. Sexual counseling is needed to maintain the marital life of these women. "*Because of their sexual dysfunction, these women need support to maintain their marital life from health system*" (P22).

Reduce the confusion in receiving sexual counseling

Members of the reproductive health team also argued that women with heart disease do not go to receive sexual counseling and services that is often due to social taboos and inappropriate reactions from others. "*Despite their sexual dysfunction, these women often do not come to see an obstetrician or midwife*" (P19).

Most women with heart disease also mentioned cultural taboos as the reason for not coming to receive sexual services. "*I'm shy and can't ask about sex. I have many sex problems*" (P15). Emphasizing the need for a special sex counseling center, one of the patients said: "*I don't know to whom I can tell about my sexual problems*" (P9).

Members of the health team also believed that the existence of sexual counseling centers for couples would increase meet the needs of these women. "*We do not have a specific center for offering sexual counseling*" (P3).

Health system revision

The analysis of the participants' descriptions showed that the knowledge, attitude, and practice of the health team, women with heart disease, and their families are needed to improve and the processes of reproductive health services provided for these women in the reproductive cycle need to have the necessary continuity and team working. A revision of the health system was needed in this regard.

Improve knowledge, attitude and performance

Health team members and managers pointed to the lack of knowledge, inattention, and incompetence of the health team members with regard to these women's reproductive health. "*The health team does not acquire the necessary skills during their university studies and their employment*" (P1).

Furthermore, the participating team members emphasized that due to the weakness of the health system, most women with heart disease and their families are unaware of reproductive health issues. They generally pay no attention to this issue and do not see a doctor/counselor in a proper time. "*Women with heart disease and their families do not have enough information about reproductive-related issues and often do not go to a health center for these issues*" (P8).

A reproductive health specialist said in this regard: "*If we strengthen the awareness of these women and their spouses in this program, they will have more participation*" (P27).

One of the women explained the weakness of the health system in attracting the attention of these women to the significance of care as the reason for not going to the reproductive centers as follows: "*We have to come a long way to get to the cardiologist's office or do an echocardiography. Moreover, these services are too expensive*" (P16).

To remove the barriers of this action an obstetrician maintained: "*We should expand joint clinics to increase their access to specialists and facilities. We also have to increase the insurance coverage of these services*" (P20).

Improve continuity and team working

Another problem mentioned by most participants was the

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disruption of reproductive health service processes for women with heart disease in the reproductive cycle and ineffective in providing team care. This disruption includes deficiencies in referrals, follow-up, feedback, as well as in the registration process and supportive service for these women."*Many times these women are left without any follow-up after the visit*" (P22).

A midwife also in this regard said: "*We refer these women to cardiologists, but they do not pay enough attention to take appropriate action and provide feedback. We do not have good team working*" (P3).

To solve these problems, a reproductive health specialist said: "*The referral and feedback system should be reformed and these women should be followed by registry system and effective team working and joint clinics*" (P1).

Discussion

Due to the shortcomings of studies in explaining the reproductive and sexual health needs of women with heart disease in Iran, the present study was conducted to determine these needs.

The results showed that most women with heart disease do not come for PCC at the suitable time and these services are not completely provided to them. Another study also showed insufficient PCC in these women.[6] Given the necessity of PCC, especially in high-risk women,[14,23,24] these services should necessarily be provided for women with heart disease, especially by the reproductive health team. Another part of the results of study showed that there was also the lack of a safe and effective contraceptive method for preventing of unwanted pregnancy in these women. These deficiencies have been also shown in other studies.[23,25,26] Given the high-risk pregnancy, especially unwanted pregnancies, in women with heart diseases, contraceptive method counseling is an important need of these women.[23,25] It is necessary to provide comprehensive reproductive health services to reduce the mortality and morbidity of these women.[15] Therefore, early identification of the women with heart disease who are in childbearing age and encouraging them to receive PCC or use appropriate contraceptive methods can contribute to their planned pregnancy.

According to the results of the study, sociocultural beliefs of the family, such as the attitude of the spouses, can affect the reproductive health of these women. The women participating in a study stated that their husbands' desires about reproductive issues are influenced by sociocultural factors. An important need of these women with regard to reproductive issues was the support of the spouse in choosing and using an appropriate contraceptive method and his participation in family planning counseling sessions.[27] In terms of the impact of sociocultural and family factors on reproductive health and the need for the participation of spouses, the present study is in line with the abovementioned research. In this regard, the health system should direct the sociocultural structures of the family toward the support for these women. In addition, because of the compulsory pregnancy imposed on them by the pressures of sociocultural structures some women with heart disease needed to be supported. Counseling, strengthened communication skills, and coping with stress, together with emphasis on the couple's participatory decision-making in the area of reproductive health can help promote the mental health of these women.

Another finding of this study was the need for early care for the reproductive health of adolescent girls with heart disease in school and when they are about to marry. Consistent with this result, a study emphasized the need to provide reproductive health services to girls with heart disease in school.[21] Another study emphasized the special attention to the reproductive needs of girls with heart disease during the transition from adolescence.[28] In Kohan's study, which emphasized the impact of sociocultural factors on receiving reproductive health services by girls, the girls maintained that talking about reproductive issues is considered to be taboo and they are shy to do so.[29] The health system should provide the ground for promoting the reproductive health of these girls at the beginning of their marital life by providing special premarital counseling to them and their families in accordance with the sociocultural structures.

Other findings of this study included the concerns of women with heart disease about their sexual relationship and their confusion about accessing the sexual health that mentioned in the fourth main category. Other studies have also shown that women with heart disease face sexual dysfunction[10,18] and the sexual counseling provided to them is not enough.[26] The results of a study indicated that sexual counseling is rarely integrated into the routine services provided to women with heart disease.[12] Such women are prone to sexual dysfunction for reasons such as the nature of their disease and anxiety about the negative impact of sex on it, which can lead to marital dissatisfaction. Accordingly, related trainings and counseling are needed in this regard.[18,26] Therefore, a proper structure for providing sexual and reproductive health services to these women seems to be essential.

The results of this study also showed the inadequate skills and knowledge of those providing reproductive health care to women with heart disease. Additionally, these women and their families did not have the proper knowledge and performance in pursuing their reproductive issues. Other studies have reported a lack of awareness and training in these women with regard to their reproductive issues.[14,23,25] Awareness has an effect on follow-up and receiving timely medical care.[30] Therefore, it is necessary to raise the awareness of these women and their families in this regard by capable reproductive health authorities. Availability, desirability, and cost-effectiveness of services increase

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the number of women who intend to receive reproductive services. These services should be easily available to all women with heart disease.[14] Another problem found in this study was the deficiencies in referral, feedback, follow-up, registration, documentation, and team working process during care from women with heart disease, which caused discontinuation of sexual and reproductive health services, arbitrary termination of contraceptive method, high-risk pregnancies, and lack of PCC in these women. Development or modification of protocols, sensitization of the health team and women with heart disease, and design of an appropriate structure can reduce these problems. According to the results of this study, one of the best structures to cover the sexual and reproductive health needs of these women is the establishing of joint clinics. These centers can improve the provision of services to these women by performing team activities and creating continuity in the process of referral, feedback, follow-up, registration, and documentation through comprehensive coverage of reproductive health components. Other studies have also shown that providing reproductive health services to these women in the form of multidisciplinary clinics leads to the satisfaction of them and increases access to high-quality reproductive health services.[6,14]

The strength of this study was that the reproductive health needs of women with heart disease were explored both from the perspective of these women and from the perspective of all members of the health team and managers who are somehow involved in the reproductive health of them. Most of the studies that have been done in this field have access to only the opinion of one group of stakeholders. The main limitation of this study was the impossibility of face-to-face interviews with all participants due to the COVID-19 pandemic. In addition, due to the mentioned conditions, it was not possible for family members of women with heart diseases to participate in the study.

Conclusion

Based on the results, to meet the sexual and reproductive health needs of women with heart disease pregnancy planning, PCC, and prevention of unwanted pregnancies together with the reform of existing social structures and psychological support of these women are essential. In addition, the support of the girls with heart disease in reproductive issues, promotion of the sexual health of women with heart disease, and reform of the referral and registration in health systems should be considered. It is necessary to provide comprehensive health team services to these women in all dimensions of reproductive health during the reproductive cycle. Setting up a joint clinic of heart diseases and reproduction, as an important need, can provide comprehensive preventive, diagnostic, and therapeutic reproductive services for these women of reproductive ages in the form of multidisciplinary team.

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Conflicts of interest

Nothing to declare.

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