Perception of Contraceptive Methods among Women with Chronic Diseases

Nashwa Eid Mohamed[*], Eman Mostafa El sayed[**], Walaa Fathy Mohamed[***], Amira Mohammed Attya Abd Elwareth[****]

Clinical Instructor at Dar-El-Shefa Nursing Secondary School, [*], Professor of Maternal &Neonatal Health Nursing Department Faculty of Nursing-Ain Shams University[**], Professor of Maternal &Neonatal Health Nursing Department Faculty of Nursing-Ain Shams University [***]Assist. Professor of Maternal &Neonatal Health Nursing Department Faculty of Nursing-Ain Shams University [****]

Abstract

Background Chronic diseases are the dominant cause of global morbidity and mortality, especially in developing countries. **Aim:** This study aimed to investigate perception of contraceptive methods among women with chronic diseases **Research design:** Descriptive analytical study was used in this study. **Sample** A purposive sample was utilized and takes 210 women with inclusion criteria. **Setting:** This study was conducted at outpatient family planning and gynecology clinics, at Maternity Hospital in Ain Shams University. **Data collection: include: 2Tools: Tool I** A Structured interviewing questionnaire **Tool II Likert attitude scale** to assess attitude toward utilization of contraceptive methods among women with chronic diseases. **Results** This study showed that, (67.6%) of the studied women have unsatisfactory level of total knowledge about contraceptive methods during chronic diseases. While, (32.4%) of them have satisfactory level of total knowledge. Also, (57.1%) of the studied women have negative attitude regarding contraceptive methods during chronic diseases. While, (42.9%) of them have positive attitude. **Conclusion:** More than two thirds of the studied women had unsatisfactory level of total knowledge about contraceptive methods during chronic diseases. Also, more than half of the studied women had negative attitude regarding contraceptive methods during chronic diseases. **Recommendations:** Design an educational program about the suitable contraceptive methods for women with chronic diseases to avoid the risk of unintended pregnancy during their chronic diseases. Conduct an awareness campaign about the importance of contraceptive methods for women with chronic diseases through mass media and in public places.

K**ey words:** Perception, chronic diseases, contraceptive methods.

Introduction

Chronic diseases are defined as conditions requiring long term management over a period of years or decades. Women of reproductive age are affected by many chronic medical conditions that have effects on preconception health and pregnancy outcomes. In addition, it can also affect women's contraceptive choices. Even though, all reproductive age women with chronic diseases have the right to obtain the highest standard of sexual and reproductive health on deciding and discuss freely on the number of children, spacing between pregnancies and timing to have a child, they failed to do that ***(Gebrekidan et al., 2020)1.***

Family planning (FP) programs are intended to regulate fertility to improve maternal and child health. They can decrease maternal, infant, and child mortality. **Globally**, the contraceptive prevalence rate (CPR), an indicator for FP programs, has increased significantly from **35%** in **1970** to **63%** in **2017.** However, FP programs continue to face challenges in developing countries. One of these challenges is the lack of variety of available contraceptive methods ***(Amran et al., 2019).***

Factors which may influence contraceptive use include its accessibility, its cost, the couple's desire to have sexual intercourse, any limits of the methods, widespread contraceptive use, variety, degree

of failure experiences, side effects, secondary benefits and the couple's dependence on medical personnel. Social expectations may influence the choice and use of contraception negating specific options or promoting specific norms. Contraceptive use is also affected by autonomous factors such as the presence/absence of family planning services and their quality, cultural traditions, marriage practices and traditional activities related to the interval between pregnancies. A country's laws and policies may prohibit, restrict or facilitate contraceptive use ***(Sen et al., 2017).***

Federal and state committees have recommended that health care professionals provide preconception counseling and appropriate family planning or contraception services to women, especially women with chronic diseases, to optimally time pregnancy and minimize morbidity and mortality. Few studies have examined the relation between pre-pregnancy chronic disease status and contraceptive use. Of these, two have shown some associations between chronic disease and contraceptive use with results varying depending on the chronic disease examined ***(Phillips-Bell et al., 2016).***

Significance of the study:

Globally, lack of modern contraception caused around 0.3% of deaths and 0.8% of Disabled Adjusted Life Year ***(DALY)***. Africa, South-East Asia and low and middle income countries in the Eastern Mediterranean region had the highest disease burden because of lack of contraception–accounting for around **0.5%** of deaths and **1** up to **1.2%** of DALYs in these regions ***(Gebrekidan et al., 2020)2.***

Chronic diseases are a major problem and public health burden in developing countries. It responsible for 73.0% of mortality and 60.0% of global morbidity burden.Women with chronic diseases are more likely to report that their pregnancies are unintended compared to women without chronic diseases. Unintended pregnancies carry their own increased risks for preterm delivery and premature rupture of membranes compared to intended pregnancies ***(Hamed Mohamed et al., 2018).***

The unintended pregnancies prevalence was 40% in 2012 with the largest proportion occurred in Africa. Over the past decade, unintended pregnancy prevalence rate ranged from 15 to 58% of pregnancies in the countries of North Africa and the Middle East. Its prevalence rate was estimated as 58% in Yemen, 38% in Palestine, 32% in Morocco, and 31% in Syria and Algeria. ***In Egypt***, it was estimated to be 23% ***(Mohamed et al., 2019)***.

In Egypt, there are few studies discussed perception of contraceptive methods among women with chronic diseases. so, this study will be conducted.

Aim Of The Study

This study aimed to investigate perception of contraceptive methods among women with chronic diseases.

Research Question:

- What is level of knowledge regarding contraceptive methods among women with chronic diseases?

- What is attitude regarding contraceptive methods among women with chronic diseases?

Subject And Methods

Research Design:

A descriptive analytical design was used to achieve the aim of the current study.

Study Settings:

The study was conducted at family planning and gynecology clinics at Ain Shams University Maternity Hospital

Subject:

Sample type: A purposive sample consisted of 210 women was used according to **inclusion criteria**: Age of women ranging from 15-49 years old., Women suffered from chronic disease, Married and Fertile

Sample size: The estimated sample size is **210** women out from 998 women who attend previous mentioned setting, at confidence level 95% ***(Ryan, 2013).***

N

$$n = \frac{}{1 + (Ne)^2}$$

n= sample size

N= total population (998women)

e= margin error (0.05).

Tools of Data Collection:

Two tools were used for data collection.

Tool (I): A Structured interviewing questionnaire, It was developed by the researcher after reviewing the current related literature as ***(Sethuraman et al., 2019 & Lincoln et al., 2021)***. It was written in simple Arabic language to suite all women's level of education. It included six parts:

Part (1): Socio demographic characteristics of the studied sample which included (age, marital status, residence, level of education and income) were represented in eight statements.

Part (2): Medical/surgical history of women with chronic diseases. Medical history which included (type of chronic disease, duration of chronic disease and medication was taken for chronic disease), were represented in four statements. Surgical history which include (type of previous surgery) were represented in two statements.

Part (3): Menstrual history which includes (age at menarche, menstrual cycle, menstrual duration and associated menstrua discomforts) were represented in five statements.

Part (4): Obstetrical history which includes (number of pregnancies, number of delivery, number of abortion previous pregnancy complication, previous delivery complication and type of last delivery) were represented in nine statements.

Part (5): Family planning history which includes (method of contraception used, associated method discomforts and reasons for discontinuing usage of contraceptive methods) were represented in five statements.

Part (6)- Items for assessing level of knowledge adapted from ***(Lincoln et al., 2021)*** regarding contraceptive methods among women with chronic diseases which include (contraceptive concept, it's effectiveness, most appropriate method for each chronic condition, possible side effects, and how to use). There were (17) knowledge related questions. Each correct answer carried score of 2 and a wrong answer or don't know answer carried a score of 1. The total score obtained for respondents were a maximum of 34 and the minimum were 17.

Scoring system: -

- **Satisfactory level of knowledge**: a score of 75% or more of correct responses (Range score25.5-34) was categorized as satisfactory level of knowledge.
- **Unsatisfactory level of knowledge:** a score of less than75 % of correct response (Range score17-25) was categorized as unsatisfactory level of knowledge.

Tool (II): Likert attitude scale adapted from ***(Lincoln et al., 2021 & Sethuraman et al., 2019)*** to assess attitude toward utilization of contraceptive methods among women with chronic diseases. It includes (12) statements measured on 5-point likert scale (5 Strongly Agree, 4 Agree, 3 Neutral, 2 Disagree and 1 Strongly Disagree). The total score obtained for respondents is a maximum of 60 with a minimum of 12.

Scoring system:

- **Positive attitude**: **A** score of 75% or more (Range score from 45-60) was categorized as positive attitude
- **Negative attitude:** A scores of less than 75% (Range score less than 45) was categorized as negative attitude.

II-Operational Design:

The operational design includes preparatory phase, content validity and reliability, pilot study and field Work.

Preparatory phase

Preparatory phase includes reviewing the recent related literature of various aspects of the study using books, periodicals and internet to develop the data collection tool.

b) Validity and reliability:

Validity: the revision of modified tools was done by 3 experts in Obstetric - Gynecological specialty to measure validity of tools and necessary modifications were done according panel judgment on clarity of sentences, appropriateness of content and sequence of items.

Reliability: Reliability was done using statistical test by using Cornbrash Alfa confession test.

Pilot study: A pilot study was conducted on 10% of the total sample (21) women from (210) women in order to ensure the applicability of the tools, the time needed to complete it and also to test study process. The pilot study was included in the study sample and no changes happened to the tool.

Field Work:

- After approval from head of department of previous mentioned study setting the researcher visited the study setting 3days / week at morning shift from 9 am to 2 pm to collect data started from 1 August 2022 to the end of January, 2023.
- The researcher started to introduce herself and explained the aim of the study to the women and took oral consent from them.
- The researcher interviewed cases individually in waiting area at family planning/gynecological clinics to fill tools used in the study.
- The average number of women interviewed per day were (4-5 women / day) using two tools to carry out the research.
- The first tool to assess socio demographic characteristics and different types of cases history, in addition to knowledge related to contraceptive methods among women with chronic disease filled within (10 - 15) minutes.
- The second tool to assess women's attitude toward utilization of contraceptive methods among women with chronic disease filled within (5-10) minutes. Total time with each woman was (20-30) minutes.
- The researcher repeated the previous steps until reach to the required sample as previously mentioned.

III-Administration Design: An official approval to conduct this study was obtained from dean of faculty of nursing Ain Shams University, a letter containing the title and aim was directed to administrator of the previous mentioned study setting.

Ethical Considerations:

The research approval was obtained from scientific research ethical committee in Faculty of Nursing at Ain Shams University before starting the study.- The researcher clarified the objective and aim of the study to the participants included in the study. The researcher assured maintaining anonymity and confidentiality of the subject data. Women had informed consent and they are allowed to choose to participate or not in the study and that they have the right to withdraw from the study at any time without penalties.

IV-Statistical Design: The statistical analysis of data was done by using the computer software of Microsoft Excel Program and Statistical Package for Social Science (SPSS) version 25. Data were presented using descriptive statistics in the form of frequencies and percentage for categorical data, the arithmetic mean (X) and standard deviation (SD) for quantitative data. Qualitative variables were compared using chi square test (X) 2, P-value to test association between two variables and Pearson correlation test (R- ‘’/[;test) to the correlation between the study variables.

Degrees of significance of results were considered as follows:

- P-value > 0.05 Not significant (NS)
- P-value ≤ 0.05 Significant (S)
- P-value ≤ 0.01 Highly Significant (HS)

Results

The main findings of this study were summarizing as follows:

Table (1): Showed that, the studied women age ranged between 15 - 49 years, with the Mean SD of age is 38.60 ± 5.80 years. As regard to residence, (69.5%) of them lived in urban areas. Also, (55.2%) of them, their age at marriage was 20 - <25 years, with a mean SD of 21.12 ± 3.92 years. Furthermore, (61.9%) of them, their duration of marriage was ≥ 15 years, with a mean SD 16.25 ± 6.21 years. Also, (57.1%) of them have secondary educations. Moreover, (54.8%) of them were housewife. Also, (48.6%) of them had enough income.

Table (2) clarified that, (46.7% and 21.9%) of the studied women had cardiovascular system diseases and endocrine glands diseases, respectively. Also, (41.0%) of them have chronic disease from 1-<5 years, with Mean SD 7.59 ± 6.73 years. Also, (27.6%) of them don't take medication regularly, cases don't take medication and use alternatives e.g analgesic, medical ointments, rest and physiotherapy represent 32.7%, 5.2%, 6.9% and 6.9% respectively.

Table (3) clarified that, (87.6%) of the studied women use a method of contraception, (36.4% and 37.0%) of them take contraceptive pill and use IUD, respectively. Also, (47.3%) of the studied women whose use a method of contraception had problems associated with the method, (40.2%) of them have bleeding between periods, (26.4) of them have abdominal pain and (23.0%) of them have itching. Also, (12.3%) of studied women stopped using contraceptive methods. Moreover, (84.6% , 73.1%, 42.3% and 11.5) of the studied women who stopped using contraceptive methods for the following reasons; feared the side effects of contraceptive methods, not aware of suitable contraceptive methods, the sexual relationship is irregular and their medical condition respectively.

Table (4) displayed that, (67.6%) of the studied women have unsatisfactory level of total knowledge about contraceptive methods during chronic diseases. While, (32.4%) of them have satisfactory level of total knowledge.

Figure (1) displayed that, (67.6%) of the studied women have unsatisfactory level of total knowledge about contraceptive methods during chronic diseases. While, (32.4%) of them have satisfactory level of total knowledge.

Table (5) displayd that, (57.1%) of the studied women have negative attitude regarding contraceptive methods during chronic diseases. While, (42.9%) of them have positive attitude. The Mean SD of total attitude is 35.66 ± 5.54.

Figure (2) displayed that, (57.1%) of the studied women have negative attitude regarding contraceptive methods during chronic diseases. While, (42.9%) of them have positive attitude. The Mean SD of total attitude is 35.66 ± 5.54.

Table (6) indicate that, there is significant positive correlation between total attitude of the studied women and their total knowledge regarding contraceptive methods during chronic diseases at (P= < 0.05).

Table (1): Frequency and percent distribution of the studied women according to their socio demographic characteristics **(n=210)**

Socio demographic characteristics	No.	%
Age (years)		
18 -< 30	11	5.2
30 -< 40	92	43.8
40 – 49	107	51.0
Mean ± SD	**38.60 ± 5.80**	
Residence		
Urban	146	69.5
Rural	64	30.5
Age at marriage (years)		
15 -< 20	70	33.3
20 -< 25	116	55.2
25 -< 30	8	3.8
30 – 35	16	7.6
21.12 ± 3.92	**Mean ± SD**	
Duration of marriage (years)		
2 -< 5	7	3.3
5 -< 10	31	14.8
10-<15	42	20.0
≥ 15	130	61.9
Mean ± SD	**16.25 ± 6.21**	
Educational level		
Illiterate	24	11.4
Basic education	21	10.0
Secondary education	120	57.1
High education	45	21.4
Occupation		
Working	95	45.2
Housewife	115	54.8
Monthly income		
Enough	102	48.6
Not enough	38	18.1
Barely enough	70	33.3

Table (2): Frequency and percent distribution of the studied women according to their medical history **(n = 210)**

Medical history	No.	%
***Chronic disease**		
Cardiovascular system diseases	98	46.7
Respiratory system diseases	30	14.3
Immunology diseases	1	0.5
Blood diseases	20	9.5
Digestive system diseases	10	4.8
Kidney diseases	3	1.4
Endocrine glands diseases	46	21.9
Musculoskeletal system diseases	15	7.1
Duration of disease (years)		
1 -< 5	86	41.0
5 -< 10	49	23.3
10-<15	45	21.4
≥ 15	30	14.3
Mean ± SD	**7.59 ± 6.73**	

(*) Responses not mutually exclusive

Table (3): Frequency and percent distribution of the studied women according to their family planning history **(n=210)**

Family planning history	No.	%
Use a method of contraception		
Yes	184	87.6
No	26	12.4
If yes, what is the last method you used? (n=184).		
Contraceptive pill	67	36.4
Contraceptive injection	24	13.0
Subcutaneous capsule	3	1.6
Natural device	2	1.1
Chemical device	6	3.3
IUD	68	37.0
Surgical devices	4	2.2
Isolators	10	5.4
The existence of problems associated with the method (n=184)		
Yes	87	47.3
No	97	52.7
***If yes, What are these problems? (n=87).**		
Abdominal pain	23	26.4
Bleeding between periods	35	40.2
Itching	20	23.0
Nausea and vomiting	11	12.6
Weight gain	26	29.9
Decreased sexual desire	4	4.6
Increased vaginal discharge	5	5.7
Headache	19	21.8
Breast swelling and pain	12	13.8
Back pain	16	18.4
Dizziness	4	4.6
Acne	3	3.4
Mood swings	4	4.6
***If you stop using contraception, what is the reason for stopping (n=26).**		
Rejection of the husband	3	11.5
Fear of side effects	22	84.6
The sexual relationship is irregular	11	42.3
The desire to have children	20	76.9
The prohibition of religion	2	7.7
Not aware of suitable contraceptive methods	19	73.1
Medical condition	3	11.5

(*) Responses not mutually exclusive

Table (4): Frequency and percent distribution of the studied women according to their total knowledge about contraceptive methods during chronic diseases **(=210).**

Levels of total knowledge	No.	%
Satisfactory	68	32.4
Unsatisfactory	**142**	**67.6**
Mean ± SD	**5.27 ± 2.84**	

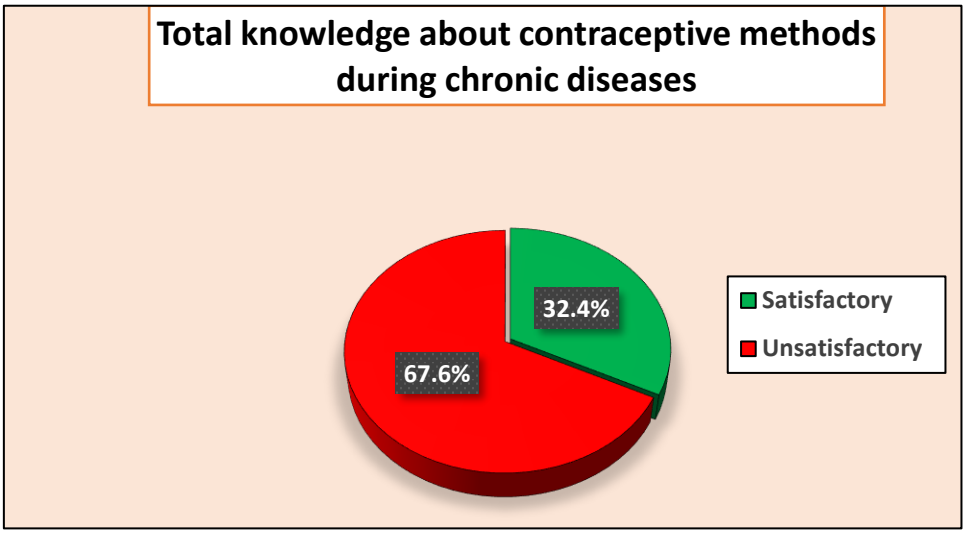

Figure (1): Percentage distribution of the studied women according to their total knowledge about contraceptive methods during chronic diseases **(n = 210).**

Table (5): Frequency and percent distribution of the studied women according to their total attitude regarding contraceptive methods during chronic diseases

Level of total attitude	No.	%
Positive	**90**	**42.9**
Negative	**120**	**57.1**
Mean ± SD	**35.66 ± 5.54**	

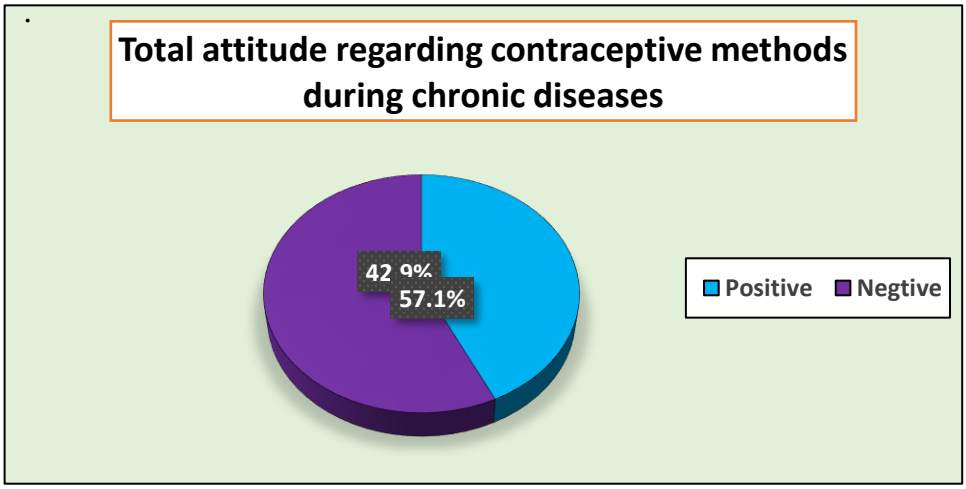

Figure (2): Percentage distribution of the studied women according to their total attitude regarding contraceptive methods during chronic diseases (n=210).

Table (6): Correlation between total knowledge and total attitude regarding contraceptive methods during chronic diseases among the studied women **(n=210).**

Items	Total knowledge	
	r	P-value
Total attitude	0.267	0.015*

r= Person correlation coefficient test. *Significant at p ‹ 0.05.

****highly significant at p ‹ 0.001.**

Discussion

Pregnancy among women with chronic diseases are associated with serious adverse maternal and perinatal outcomes, including congenital abnormalities, pre-term labor, spontaneous abortion, premature birth and fetal death. Optimized preconception care and reproductive life planning is therefore critical to reduction in pregnancy-related complications for these women ***Harris, Egan, Forder. (2022)***. So this study aimed to explore perception and utilization of contraceptive methods among women with chronic diseases.

According to general characteristics of the studied women. The current study result showed that, the studied women age ranged between 18 - 49 years, with the Mean SD of age is 38.60 ± 5.80 years. More than two thirds of them lived in urban areas. Furthermore, less than two thirds of them, their duration of marriage was ≥ 15 years, with a mean SD 16.25 ± 6.21 years. Also, more than half of them had secondary educations and were housewife. While less than half of them had enough income.

These findings disagreed with ***Khan et al. (2022)*** in a study entitled " Pattern of contraceptive use among reproductive-aged women with diabetes and/or hypertension: findings from Bangladesh demographic and health survey" and found that half of the studied women their age ranged from 20–34 years, more than one third of them had secondary level of education and less than three quarters of them lived in rural areas. This results may be due to differences in socio demographic criteria between the studied samples.

According to medical history, the current study result clarified that, more than two fifths of the studied women had cardiovascular system diseases and slightly more than one fifth of them had endocrine glands diseases. Also, slightly more than two fifths of them had chronic disease from 1-<5 years, with Mean SD 7.59 ± 6.73 years.

These findings were contrasted with ***Gebrekidan et al. (2020)*** who applied study entitled " contraceptive use among women with chronic non-communicable diseases in Addis Ababa's, public hospitals" and revealed that about two fifths of the studied women had diabetic and hypertension respectively, one tenth of them had hampleeart disease. Also disagreed with Gerhardt, ***Pulz & Satler (2023)*** who applied study about "Contraception in women with diabetes: adequacy of medical files registration and prescription - a cross-section study" .and found that more than half of the studied women had diabetes disease while minority of them had heart disease and less than one third of the studied women had chronic disease longer than 20 years. This results may be due to differences in life style and genetic factors between the studied samples.

As regard to family planning history of the studied women, the present study result clarified that, most of the studied women using a method of contraception, around one third of them take contraceptive pill and use IUD respectively.

These results were contrasted with ***Manaf et al. (2012)*** who applied study entitled " Contraceptive use among women with chronic medical conditions and factors associated with its non-use in Malaysia " and reported that less than one third of women reported using modern contraceptives with chronic medical conditions who have indication for contraceptive use, more than two thirds of them reported using no contraceptive or have used non-effective methods of contraceptive such as withdrawal, safe-period, herbal medicine and other traditional practices. From the investigator's point of view, these differences between results may be due to differences in culture and residence area between studied samples.

According to total knowledge of the studied women about contraceptive methods during chronic diseases, the current study result displayed that, more than two thirds of the studied women had unsatisfactory level of total knowledge about contraceptive methods during chronic diseases. With Mean ± SD of total knowledge is 5.27 ± 2.84. From the researcher's point' of view, this result may be due to misconception and incorrect rumors or myths among women related to contraceptive methods during chronic diseases.

This result was in accordance with ***Bekele et al., (2020) and OMAR & ABDİRİSAK, (2022)*** they found that a significant proportion of respondents had poor knowledge regarding on family planning. Also in accordance with ***Pecker et al.,(2021)*** who conducted study entitled "Women with sickle cell disease report low knowledge and use of long acting reversible contraception" and reported that respondents demonstrated low knowledge of the efficacy of contraceptive options. While this result was contrasted with ***Warzecha et al.,(2019)*** who applied study in Poland to investigate a representative group of Polish women's knowledge about the physiology of the menstrual cycle, contraceptive methods, infertility and cervical cancer prevention and showed that levels of knowledge about key aspects of reproductive health issues and contraceptive methods among Polish women of reproductive age seem quite satisfying as more than two thirds of studied women have high education. Also disagreed with ***Aldabbagh & Al-Qazaz, (2020)*** who conducted study in Iraq to evaluate the knowledge and practice of participants regarding birth control methods with the prevalence of each method. This study disclosed an acceptable level of knowledge among Iraqi women seeking health care respect to birth control methods. This difference in the result may be due to difference in level of education between studied samples. So, women with lower levels of education require continued education and regular communication about the importance of family planning

Concerned with the total attitude regarding contraceptive methods during chronic diseases, the current study result displayed that, more than half of the studied women had negative attitude regarding contraceptive methods during chronic diseases with Mean ± SD of total attitude is 35.66 ± 5.54. This result highlights an unmet need for greater understanding and adoption of contraceptive methods programs to enhance chronic disease women attitude.

This result was supported with ***Mohamed, (2020)*** who revealed that attitude of the study participants toward FP was almost low. Also this result was in accordance with While this result disagreed with ***Lumor et al.,(2023)*** and ***Alsharif et al.,(2023)*** they found that participants had a good attitude toward family planning. However, they had poor knowledge and poor practice of family planning. Also disagreed with ***Demeke et al.,(2024)*** who conducted study entitled ". Knowledge and attitude towards preconception care and associated factors among women of reproductive age with chronic disease in Amhara region referral hospitals, Ethiopia " they found that the participants' attitude toward preconception care including contraceptive methods was good. This variation may be due to differences in participants' level of information, occupation, residence and exposure to mass media.

As regard correlation between total knowledge and total attitude regarding contraceptive methods during chronic diseases among the studied women, the current study result indicated that, there is significant positive correlation between total attitude of the studied women and their total knowledge regarding contraceptive methods during chronic diseases

This result was agreed with ***Ibrahim et al., (2022)*** who showed that there is a positive relation between total knowledge and total attitude regarding contraceptive methods in pretest. While this result was contrasted with ***Shakya et al.,(2020)*** and ***Imtishal et al.,(2023)*** they illustrated that there was a negative relationship between knowledge and attitude. Further, the relationship between knowledge and attitude, were not statistically significant. This result may be due to difference in socio demographic criteria and culture between studied samples.

Conclusion

In the light of the current study findings, it can be concluded that, More than two thirds of the studied women had unsatisfactory level of total knowledge about contraceptive methods during chronic diseases. While, less than one third of them had satisfactory level of total knowledge. Also, more than half of the studied women had negative attitude regarding contraceptive methods during chronic diseases. While, less than half of

them had positive attitude. Additionally, there is significant positive correlation between total knowledge of the studied women and their total attitude regarding contraceptive methods during chronic diseases.

Recommendations

- In the light of the research findings, the following recommendations are offered:
- Design an educational program about the suitable contraceptive methods for women with chronic diseases to avoid the risk of unintended pregnancy during their chronic diseases.
- Conduct an awareness campaign about the importance of contraceptive methods for women with chronic diseases through mass media and in public places.
- Assigned private room for counseling for women with chronic diseases in the family planning units.
- Conduct many researches in the field of family planning for women suffering from chronic diseases to identify barriers that affect utilization of contraceptive methods among women with chronic diseases

References

Khan, M. N., Islam, M. M., & Islam, R. M. (2022). Pattern of contraceptive use among reproductive-aged women with diabetes and/or hypertension: findings from Bangladesh Demographic and Health Survey. BMC Women's Health, 22(1), 230.

brekidan, H., Gebretinsae, T., Alemay ehu, M., & Mirutse, G. (2020): Contraceptive use among women with chronic non-communicable disease in addis ababa public hospitals, ethiopia. Ethiopian Journal of Reproductive Health, 12(4), 8-8.

Gerhardt, C.R., Pulz, G.T.C., Satler, F. (2023): Contraception in women with diabetes: adequacy of medical files registration and prescription - a cross-section study. Endocrine 80, 511–519 (2023). https://doi.org/10.1007/s12020-023-03344-4

Manaf, R. A., Ismail, I. Z., & Latiff, L. A. (2012). Contraceptive use among women with chronic medical conditions and factors associated with its non-use in Malaysia. Global journal of health science, 4(5), 91.

Bekele, D., Surur, F., Nigatu, B., Teklu, A., Getinet, T., Kassa, M., ... & Abesha, Y. (2020): Knowledge and attitude towards family planning among women of reproductive age in emerging regions of Ethiopia. Journal of Multidisciplinary Healthcare, 1463-1474.

OMAR, A. A., & ABDİRİSAK, D. (2022): Knowledge and practice of family planning methods among the married women of reproductive age group attending SOS hospital in Mogadishu Somalia. Turkish Journal of Health Science and Life, 5(2), 62-68.

Pecker, L. H., Hussain, S., Lanzkron, S., Tao, X., Thaler, K., Burke, A. E., & Whaley, N. (2021): Women with sickle cell disease report low knowledge and use of long acting reversible contraception. Journal of the National Medical Association, 113(5), 552-559.

Warzecha, D., Szymusik, I., Pietrzak, B., Kosinska-Kaczynska, K., Sierdzinski, J., Sochacki-Wojcicka, N., & Wielgos, M. (2019): Sex education in Poland–a cross-sectional study evaluating over twenty thousand polish women's knowledge of reproductive health issues and contraceptive methods. BMC public health, 19(1), 1-8.

Aldabbagh, R. O., & Al-Qazaz, H. K. (2020): Knowledge and practice of contraception use among females of child-bearing age in Mosul, Iraq. International journal of women's health, 107-113.

Alsharif SS, Abu Saeed RI, Alskhairi RF, Almuwallad SA, Mandili FA, Shatla M(2023): Knowledge, Attitude, and Practice of Contraception Use Among Childbearing Women in Makkah Region, Saudi Arabia. Cureus. 2023 Feb 10;15(2):e34848.

Lumor, D. A., Obirikorang, C., Acheampong, E., Obirikorang, Y., Owusu, H., & Newton, S. (2023): The relevance of knowledge, perception, and factors that influence contraceptive use among married women living in Uaddara Barracks, Ghana. Frontiers in Global Women's Health, 4.

Mohamed, H. S. (2020): Knowledge, attitude and practice towards family planning among married women in areas of low and no family planning in Giza governorate: Impact of educational intervention. Journal of The Arab Society for Medical Research, 15(2), 98-108.

Ibrahim, H W., Maklof, E M., & Mohamed, R. R(2022): Effect of educational program on knowledge and attitude of childbearing women about intrauterine cupper device as emergency contraceptive method. Egyptian Journal of Health Care, 13(1), 99-113.

Imtishal, M., Mohammadnezhad, M., Baker, P., & Khan, S. (2023): Predictors of Knowledge, Attitude, and Practice (KAP) Towards Family Planning (FP) Among Pregnant Women in Fiji. Maternal and Child Health Journal, 27(5), 795-804.

Shakya, S., Shrestha, S., Shrestha, R. K., Giri, U., & Shrestha, S. (2020): Knowledge, attitude and practice of emergency contraceptive pills among community pharmacy practitioners working in Kathmandu Valley: a cross-sectional study. BMC Health Services Research, 20(1), 1-18.

Amran, Y., Nasir, N. M., Dachlia, D., Yelda, F., Utomo, B., Ariawan, I., & Damayanti, R. (2019). Perceptions of contraception and patterns of switching contraceptive methods among family-planning acceptors in West Nusa Tenggara, Indonesia. Journal of Preventive Medicine and Public Health, 52(4), 258

Sen, S., Cetinkaya, A., & Cavuslar, A. (2017). Perceptıon scale of barrıers to contraceptıve use: a methodologıcal study. Fertility research and practice, 3, 1-10.

Phillips-Bell, G. S., Sappenfield, W., Robbins, C. L., & Hernandez, L. (2016). Chronic diseases and use of contraception among women at risk of unintended pregnancy. Journal of Women's Health, 25(12), 1262-1269.

Gebrekidan, H., Gebretinsae, T., Alemayehu, M., & Mirutse, G. (2020). Contraceptive use among women with chronic non-communicable disease in addis ababa public hospitals, ethiopia. Ethiopian Journal of Reproductive Health, 12(4), 8-8.

Mohamed, E. A. E. B., Hamed, A. F., Yousef, F. M., & Ahmed, E. A. (2019). Prevalence, determinants, and outcomes of unintended pregnancy in Sohag district, Egypt. Journal of the Egyptian Public Health Association, 94, 1-9.

Sethuraman, B., Rachana, A., & Kurian, S. (2019). Knowledge, attitude, and practice regarding contraception among women with schizophrenia: An observational study from south India. Indian Journal of Psychological

Lincoln, J., Mohammadnezhad, M., & Khan, S. (2021). Knowledge, Attitude, and Practice (KAP) towards Family Planning among Women of Reproductive Age in Fiji. Global Journal of Health Science, 13(4), 1-24.

Hamed Mohamed, W. E. (2018). Pregnancy related to anxiety among chronically ill women. Mansoura Nursing Journal, 5(3), 147-157.