Novelty Journals

ISSN 2394-7330

International Journal of Novel Research in Healthcare and Nursing
Vol. 11, Issue 1, pp: (40-59), Month: January - April 2024, Available at: www.noveltyjournals.com

Application of Coping Pattern on Pregnant Women with Fetal Congenital Anomalies

Hoda Shaarawi Mohamed [(1)], Shaimaa Hassan Mohamady [(2)], Neama Abd El-FattahAbd El-Gawad [(3)]

[(1)] Master Degree Maternity and Newborn Faculty of Nursing Ain Shams University

[(2)] Professor of Maternal and Newborn Health Nursing - Faculty of Nursing –Helwan University -Egypt

[(3)] Professor of Maternal and Newborn Health Nursing -Faculty of Nursing -Helwan University- Egypt

DOI: https://doi.org/10.5281/zenodo.10531890

Published Date: 19-January-2024

Abstract: **Background: Fetal congenital abnormalities are a public health problem because lead to an increase in disability and a higher risk of experiencing cognitive, physical, and social issues later in life. Aim: to evaluate the effect of application of coping pattern on pregnant women with fetal congenital anomalies. Research design: A Quasi-experimental design was used in the current study. Setting: study conducted in National Research Center (Medical Research Center of Excellent). In Egypt. Sample Purposive sample of 50 pregnant women was collected according to inclusion and exclusion criteria. Tools: Two tools used to collect the data, tool I interviewing questionnaire for pregnant women sociodemographic characteristic and knowledge assessment sheet, tool II self –Rating Depression Scale, Trial Anxiety Inventory Form Y-1and cope inventory. Result: There was a highly significant improvement in the total knowledge score in post application and majority of pregnant women used religious and active cope as a coping pattern. Conclusion: The present study concluded that majority of pregnant women have poor knowledge in pre-application and there was a highly significant improvement in the total knowledge score in post application, majority of pregnant women used religious and active cope as a coping pattern (were praying and trust in God. there was a highly significant improvement in the total coping score post application. Recommendations: Continuous educational sessions, for pregnant women with fetal congenital anomalies to improve their knowledge skills in dealing with the problem and improve maternal and fetal well-being.**

Keywords: **Pregnant Women, Fetal Congenital Anomalies, Coping Pattern.**

1. INTRODUCTION

Pregnancy is a joyful and happy period the life, the demands and changes associated with this reproductive period, and the social context within which pregnancy takes place, can produce high levels of stress and anxiety for many expectant mothers. Pregnancy requires many adjustments in physiological, familial, financial, occupational and other realms which may evoke emotional distress for women, especially women of low income who are prone to experience more stress with fewer resources ***(Crider, 2022).***

Congenital anomalies (CAs) are also known as birth defects, congenital disorders or congenital malformations. Congenital anomalies can be defined as structural or functional anomalies that occur during intrauterine life and can be identified prenatally, at birth, or sometimes may only be detected later in infancy, such as hearing defects. Congenital anomalies are important causes of infant and childhood deaths, chronic illness and disability ***(Russo et al., 2018)***.

Congenital anomalies are a major cause of stillbirth and neonatal mortality in both developed and developing countries, but the burden is more severe in the low and middle-income countries. can be life-threatening, result in long-term disability, and negatively affect individuals, families, health-care systems and societies ***(Kamal & Othman, 2018).***

The prenatal diagnosis of a fetal anomaly is unexpected, and for many pregnant women it is devastating. It is considered a traumatic perinatal event that presents a crisis for pregnant women. Expectant pregnant women dealing with a lethal anomaly are particularly at increased risk for perinatal depression, anxiety ***(Theroux & Hersperger, 2022).***

Pregnant women can also experience significant stress. Stress can be defined as any demand in the environment which exceeds women adaptive capacity, resulting in physical or psychological strain. Stress in the form of adverse life events has consistently been identified as one of many predictors of post-partum depression. Depression and anxiety in the prenatal period. For the developing infant, high levels of prenatal stress have been linked to impaired fetal growth and pre-term delivery, as well as negative outcomes for cognitive, emotional and physical ***(Crowe & Sarma, 2022).***

Pregnant women have children diagnosed with Congenital anomalies have risk of developing lifelong physical, cognitive, emotional, and social challenges. Children have a bearing on the country's health expenditure would require long-term rehabilitative services. Further, having a baby with congenital malformation has severe emotional and psychological stress on their mothers and their future reproductive outcomes ***(Mangla et al., 2023).***

The most common coping strategies effective in coping with fetal congenital anomalies included comparing one's situation with something worse, religiousness and spirituality, acceptance of the situation, seeking information, and optimism and positive thinking. Receiving social support after detection of disease can reduce depression, psychosocial morbidity, and post-traumatic stress disorder symptoms ***(Nolan & Misca, 2018).***

Nurses have essential role in prenatal care settings need to have accurate information to mothers so understand the benefits and limitations of screening. Timely presentation of information and identification of available resources will help nurses minimize confusion and provide support for mothers as proceed with pregnancy screening ***(Stanislavski, 2019).***

Significant of the study

Internationally, 7.9 million births occur annually worldwide with serious birth defects and 94% of these births occur in the middle and low-income countries. In Egypt, infant mortality rate due to birth defect is about 15% of all infant death, birth defect account for 15-30% of all pediatric hospitalizations and they extract a proportionately higher health care coast than other hospitalizations that affected maternal psychological status ***(Sharma et al., 2021).***

In Egypt, the prevalence of CAs was 65.3/1000 live births. Within Egypt, the reported rates showed variations; lowest in Assuit (20.6/1000) ***(Abdu, 2019).*** Prenatal diagnosis of congenital disease provides information for decisions during pregnancy and appropriate treatment parentally (timed delivery in tertiary care centers), it is assumed to improve perinatal and long-term outcome ***(Bashir, 2019).*** There for this study will be conducted to evaluating the effect of application of coping pattern on mother with fetal congenital anomalies.

2. AIM OF THE STUDY

The current study aimed to evaluate the effect of application of coping pattern on pregnant women with fetal congenital anomalies.

This aim was achieved through the following objectives:

- Assess pregnant women's knowledge regarding congenital anomalies

- Assess pregnant women's knowledge regarding coping pattern.

- Apply coping pattern for pregnant women with fetal congenital anomalies.

- Evaluate coping pattern application on pregnant women with fetal congenital anomalies.

Research hypothesis:

H1-Pregnant women's knowledge regarding congenital anomalies and coping pattern will be increased.

H2- Coping pattern for pregnant women with fetal congenital anomalies will be effective to maintain maternal-fetal well-being.

International Journal of Novel Research in Healthcare and Nursing
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3. SUBJECT AND METHODS

Research design: A quasi-experimental design was utilized in this study. Quasi-experimental research evaluation design was chosen for the data collection. This design is typical for assessing the impacts of an intervention on certain outcome variables. It is primarily used for program evaluation because key questions can be addressed on a limited scale ***(Maciejewski, 2018).*** Additionally, a quasi-experiment is a type of research design that attempts to establish a cause-and-effect relationship ***(Thomson et al., 2021).*** The current study included one group (pre- and post-test) was utilized.

Setting: This study was conducted in National Research Center (Medical Research Center of Excellent). This place consisting of eight floors and offer so many medical services as (Fetal medicine and diagnosis, Oral and dental inheritance, laboratory investigation, ultrasonography examination, Genes and heredity research laboratories. Intensive care for new born. The study conducted in ground floor in fetal medicine and diagnosis clinic consisting of three rooms for diagnosis of fetal congenital anomalies and recurrent abortion. The study setting serves a large segment of society and it is easy to access and has all the necessary facilities for care. **Sampling:** Purposive sample (50) pregnant women diagnosed with fetal congenital anomaly) was selected according to inclusion and exclusion

Inclusion criteria: Pregnant women diagnosed with fetal congenital anomalies.

Exclusion criteria:

-Pregnant women with any psychiatrically disorder.

- Pregnant women decided termination of pregnancy.

Tools of data collection:

Two tools were used for data collection as the following:

Tool (1): (A) Interviewing questionnaire:

This tool was developed by the researcher's based on literature reviewing ***(Irani et al., 2019 & Yeshambel et al., 2022).*** It was written in sample Arabic language and consisted of three parts:

- **First part**: Pregnant women's Scio-demographic data (consisted of 7 close ended questions): such as: women age, educational level, residence, Presence of a source of pollution near the house, occupation and place of receiving antenatal care.
- **Second part: Obstetric history**: was designed to be used to collect obstetric history include previous pregnancy history. Consisted of (13) close ended questions (Age of marriage, premarital exam, duration of marriage, degree of kinship, number of previous pregnancy, number of previous deliveries, preterm labor, caesarian Section deliveries, intrauterine fetal death, deformed baby, gestational complication and abortion.
- **Current pregnancy history.** Consisted of (11 close ended questions) gestational age time of fetal congenital diagnosis, rubella vaccination, exposure to X ray, genital infection, folic acid intake, antenatal visit, sleeping hours and husband smoking status, Individuals provide woman psychological support.
- **Third part: First section** pregnant women knowledge assessment sheet developed by researcher to assess pregnant woman's knowledge regarding fetal congenital anomalies and coping pattern pre and post application (consisted of 6 opened ended questions). Fetal Congenital anomalies (definition, causes, prevention, complication during pregnancy, complication during delivery, complication post-partum).
- **Second section** pregnant women knowledge assessment sheet developed by researcher to assess pregnant woman's knowledge regarding coping pattern pre and post application (consisted of 2 opened ended questions). such as (coping definition, methods of coping pattern.

Scoring system:

Concerning determining knowledge among studied women the questionnaire contained 8 items, each was three points Liker scale (0 – 2) as (0) for don't know, (1) for correct incomplete answer, and (2) for correct complete answer. Total score of knowledge 16. The pregnant women 'knowledge about fetal congenital abnormalities were evaluated giving a score of 0-16. The total score of each woman was categorized into "Unsatisfactory Knowledge" when achieved 0 – 8 points of the total score less than or equal 50%, and women had 9 - 16 points more than 50% consider as "Satisfactory knowledge" ***(El Hawat et al., 2023).***

Tool (2) consists of four parts:

- **Part 1: Self –Rating Depression Scale (SDS)** adopted from ***Zunk, (1965)*** and ***(Thurbr et al., 2002).***to assess the depression level functioning of the studied women pre and post application of coping pattern on pregnant women with fetal congenital anomaly consists of 20 items such as (feel down-hearted and blue, morning is feel the best, crying spells, trouble sleeping at night, eat as much as women used to, still enjoy sex, losing weight, have constipation, heart beats faster than usual, get tired for no reason, mind is as clear as it used to be, find it easy to do the things used to, restless and can't keep still, feel hopeful about the future, and translate to Arabic language to meet studied sample needs**.**

Scoring system:

Regarding assessing depression level for studied women the questionnaire contained 20 items each was four points Likert scale (1 – 4) as (1) for Little of time, (2) for Sometimes, (3) for good of the time, and (4) for most of time. The pregnant woman 'were evaluated giving a score of 20- 80.and modified by the researcher the total score of each woman was categorized into "minor." when women achieved 20 – 39 points of the total score, women had 40 - 49 points were considered as "Mild depressed". women 50 - 59 points were considered as "Moderate depressed", and women had more than or equal 60 points were considered as "Sever depressed".

- **Part 2:** State – Trial Anxiety Inventory STAI form Y-1 adopted from ***Spielberger, (1966)*** to assess level of anxiety of the studied women. Pre and post-application consists of 20 items such as (feel calm, secure, tense, upset, strained, ease, upset, presently worrying over possible misfortunes, satisfied, frightened, comfortable self-confident nervous, Jittery indecisive, relaxed ***content*** worried confused, steady and pleasant).and translate to Arabic language to meet study sample needs.

Scoring system:

Regarding assessing anxiety for studied women we used the State-Trait Anxiety Inventory tool with 20 items, each was four points Liker scale (1 – 4) as (1) for Not at all, (2) for Some What, (3) for moderately so, and (4) for very much so. much so. The studied woman 'were evaluated giving a score of 20- 80. The total score of each woman was categorized into "Normal." when studied woman achieved 20 – 39 points of the total score, women had 40 - 49 points were considered as "Mild Anxiety". Those who had 50 - 59 points were considered as "Moderate Anxiety", and those who had more than or equal 60 points were considered as "Sever Anxiety"

- **Part 3:** Cope inventory adapted from ***(Carver, 2013)*** and modify by the researcher to assess pregnant women cope with fetal congenital anomalies pre and post application. Consists of 36 items (Mental disengagement contain 4 questions, Positive reinterpretation and growth 2 questions, use of instrumental social support contain 3 questions, Active coping contain 3 questions, Religious coping contain 4 questions, Behavioral disengagement contain 3 questions, Restraint contain 3 questions, use of emotional social support contain 3 questions, Acceptance contain 3 questions, ***Suppression*** of competing activities contain 4 questions and Planning contain 3 questions. And translate to Arabic language.

Scoring system:

Regarding studied women cope with fetal congenital anomalies the Cope inventory tool was used it had 36 items with four points Likert scale 1-4 as (1) for No, (2) for Less, (3) for moderate, and (4) for more. The pregnant woman 'were evaluated giving a score of 36- 144. The total score of each woman was categorized into "Minor." when achieved 36 – 72 points of the total score,

those who had 73 - 93 points were considered as "Mild Cope". Women had 94 - 120 points were considered as "Moderate Cope", and those who had more than 120 points were considered as "High Cope".

- **Part 4**: pregnant women and fetal well-being sheet to assess maternal and fetal well-being which included pregnant women clinical data such as (weight, Hight, body mass index, vital sings) biophysical profile (fetal breathing movement, body movement, fetal tone, heart rate and amniotic fluid volume) developed by the researcher.

Validity: The revision of the tools was done by a panel of three Maternal and Newborn Health Nursing and psychiatry expertise to test the relevance and clarity of contents.

Reliability: Cronbach alpha was calculated between the two scores using SPSS computer package. It was 0.91 (for interviewing questionnaire and knowledge ", and 0.84 for tool Self –Rating Depression Scale, State – Trial Anxiety Inventory **(STAI)** and Cope Inventory. Which indicates that the instrument is reliable to detect the objectives of the study.

Ethical consideration:

Ethical approved obtained from scientific, ethical committee of faculty of nursing Helwan University. Official permission to conduct the study were secured. All participants gave their oral informed consent to participate in the study. They were informed about the study purpose, and about their right to refuse or withdraw without giving reasons. They were reassured about the anonymity of the information collected, and that is would be used only for the purpose of scientific research.

Pilot study:

Pilot study was carried out on 10 % of required data. All participants in the studied women (5 women) to evaluate the applicability of the study tools and estimate the proper time required for answering the pilot study were included with sample size.

Field work:

After official permission obtained from previously mentioned setting. The study was carried out over six months started from August 2020 to the end of January 2021. The researcher attainted predetermine setting 3 days per week from 9 am to 3 pm. the study was conducted through four phases assessment, planning, implementation, and evaluation phases.

1-Assessment phase:

- The researcher explained the aim of the study & obtained a formal consent from the studied sample to participate in the study.
- Pretest knowledge assessment interview questioner was applied on pregnant women with fetal congenital anomalies individually.
- Fulfilling of the pretest consumed 30 minutes by the researcher.
- Assessment phase help the researcher to keep the base line for pregnant women's knowledge of fetal congenital anomalies and coping pattern to detect women's needs and develop the educational program based on it.

2- Planning phase:

The researcher had visited the study setting to develop the educational sessions according to women's needs, moreover teaching materials such as (booklet) prepared to help in covering theoretical and practical information.

3- Implementation phase:

Implementing of educational sessions contained 7sessions, the time of each session ranged between 30-45 minutes according to studied women needs. At the end of each session, feedback was invited for pregnant women's questions were discussed to explain any misunderstanding. The studied women were (50) pregnant women divided into 6 groups according to availability and each group involved 8 and 9 women. Work time table for each group was scheduled over 3 weeks. Each week 2 session. The researcher developed an educational sessions and booklet regarding application of coping pattern on pregnant women with fetal congenital anomalies according to their needs in simple Arabic language.

I. Theoretical part of educational sessions conducted into 3 sessions in the form of lecture and group discussion for two weeks the booklet was distributed to each participated woman.

1st session: about 30 minutes focus explain information about objectives of educational sessions, knowledge about the effect of stress and negative feelings on a pregnant woman with fetal congenital anomalies, lecture and group discussion was used as teaching method, and handout was given to pregnant women.

2nd session: about 45 minutes, explanation the different types of congenital anomalies (definition, causes, complications methods of prevention and treatment of fetal congenital anomalies). To studied pregnant women. Lecture and group discussion was used as teaching method and handout was given to pregnant women.

3rd session: about 45 minutes, women acquired information about coping pattern types (positive reinterpretation and growth, use of social support, Active coping, religious coping, use of emotional social support, acceptance, Suppression of competing activities and planning. to enhance pregnant women, reduce stress and psychological tension, lecture and group discussion was used as teaching method, and handout was given to pregnant women.

4th session: about 30 minutes, women acquired necessary information about importance of group therapy sessions, exchanging opinions, problems, experiences and emotional ventilation by talking or writing and encourage them to practice in group therapy, identify tips to improve coping through enhancing lifestyle behaviors (life style behavior (reduce exposure to screening, radiation, all sources of contamination no smoking and reduce stress). lecture and group discussion were used as teaching method, and handout was given to.

II. Practical part: conducted into 3 sessions of demonstration and re demonstration

- Each session started with recapping of what had been given throughout the previous session and the objective of the new one.

Demonstration about yoga, meditation, breathing exercise & android applications for coping stress, strategies to cope with stress it included six sessions.

5th session: about 45 minutes in which women acquired skills and practice regarding acquired skills and practice regarding strategies for dealing with anxiety, depression and tension yoga and meditation to enhance cope and decrease stress (benefits, exercises steps of yoga and meditation) (reading Quran, stay away from social media, involved in new or old hobbies, volunteer work, writing, praying, Painting, sculpture and formation). Lecture, demonstration, and group discussion was used as teaching method, colored posters and handout was given to women.

6th session: about 45 minutes in which women acquired skills and practice regarding application of android application to dealing with anxiety and depression (Names of applications and how to download and use (application of Stop, Breathe & Think, Calm, Buddhify, Insight Timer, Simply Being, Headspace and Happify application), lecture, was given to pregnant women.

7th session: about 45 minutes in which women acquired skills and practice regarding application of coping pattern (different ways of coping pattern, positive reinterpretation and growth, use of social support, active coping, religious coping, use of emotional social support acceptance and planning). Lecture, demonstration, and group discussion was used as teaching method.

4-Evaluation phase:

The researcher evaluated the effect of coping pattern on the studied women by same tools (self –Rating Depression Scale, The State-Trait Anxiety Inventory and coping pattern application tool). and the scoring system was similar to that of the baseline assessment.

Statistical item:

Data was entered and analyzed by using SPSS (Statistical Package for Social Science) statistical package version 22. Graphics were done using Excel program. Quantitative data were presented by mean (X) and standard deviation (SD). It was analyzed using student t- test for comparison between two means, and ANOVA (F) test for comparison between more than two means.

Novelty Journals

ISSN 2394-7330

International Journal of Novel Research in Healthcare and Nursing
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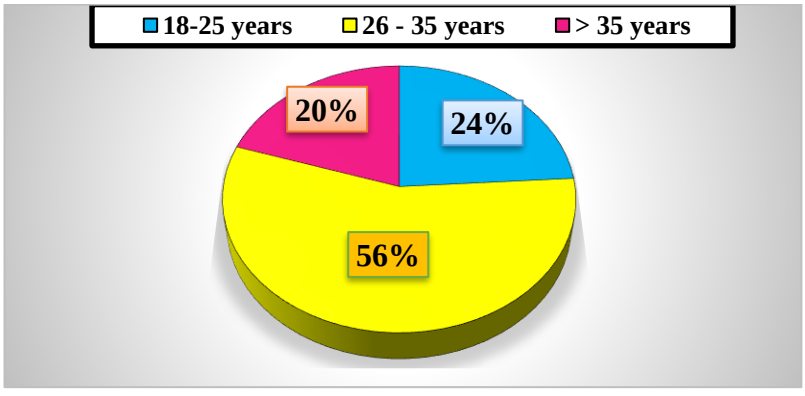
4. RESULTS

Table (1): Distribution of the studied pregnant women according to their Socio -demographic characteristics (N = 50).

Socio demographic characteristics	No.	%
Educational Level	10	20
Can't read and write	11	22
Read & Write	22	44
Secondary education University	7	14
Residence:		
Urban	17	34
Rural	33	66
Presence of source of pollution near the house:		
Yes	9	18
No	41	82
Occupation:		
Employees	6	12
Housewives	44	88
Place for receiving medical care	3	6
Government hospital	47	94
Private hospital		
Have relatives have deformed children?		
Yes	6	12
NO	44	88
Total	50	100

Table (1) shows that more than one third (44%), of studied pregnant women had secondary school education, while minority (14%) of studied women had university education. As regards residence, two third (66%) of pregnant women were lived at rural areas and nearly one third (34%) were lived in urban area, regarding occupation majority of pregnant women (88%) were house wife and minority (12%) of pregnant women were employee. And majority of pregnant women (94%) received antenatal follow up in private hospital.



Mean ± SD 28.8 ± 5.1 years

Figure (1): Percent distribution of age of studied pregnant women (N=50)

Figure (1): shows that, more than half (56%) of studied pregnant women aged between 26-35 years, less than one third (24%) of the studied pregnant women aged 18-25 and less than one quarter (20%) of women age 35 years, with mean of 28.8 ± 5.1 years.

Novelty Journals

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Table (2): Distribution of the studied pregnant women according to their Obstetric history (N = 50).

Obstetric history	N0.	%
Age (Years) of marriage:		
< 20	14	28
20 - 30	36	72
Premarital exam:		
Yes	27	54
No	23	46
Mean ± SD	**23.7 ± 2.5 years**	
Duration of marriage:		
< 5	24	40
5 – 10	32	53.3
>10	4	6.7
Degree of kinship:		
No	44	88
Yes	6	12
Mean ± SD	**7.2 ± 3.3 years**	
Number of previous pregnancy:		
Primigravida	3	6
1-5	46	92
> 5	1	2
Number of previous deliveries:		
None	3	6
1-5	46	92
> 5	1	2
Preterm labor:		
Yes	5	10.6
No	42	89.4
Caesarian Section as a type of previous deliveries:		
Yes	17	36.2
No	30	63.8
Intrauterine fetal death:		
Yes	12	25.5
No	35	74.5
Deformed baby:		
Yes	37	78.7
No	10	21.3
Gestational hypertension:	3	6.4
Yes	44	93.6
No		
Abortions:		
Yes	15	31.9
No	32	68.1
Number of abortions: None	29	61.7
1 – 2	17	36.2
≥ 3	1	2.1
Total	**50**	**100**

Table (2) reveal that. More than half (54%) of studied pregnant women had premarital examination, less than three quarter (72%) of pregnant women had age of marriage between 20-30 years, with a mean age of marriage of 23.7 ± 2.5 years, and more than half of pregnant women (53.3%) duration of marriage of 5-10 years with a mean of 7.2 ± 3.3 years. Majority of pregnant women (92%) had 1-5 pregnancies, more than two third (68.1%) of pregnant women had no previous abortion, majority of pregnant women (92%) delivered 1-5 deliveries, more than one third (36.2%) delivered by caesarian section. and minority (6.4%) of studied pregnant women suffered from previous gestational hypertension.

Table (3): Distribution of the studied pregnant women according to current pregnancy.

Current pregnancy	No.	%
Gestational age by ultrasound (Weeks):		
>13	3	6
14 – 26	45	90
> 26	2	4
Time of fetal congenital diagnosis:		
< 24	45	90
≥ 24	5	10
Number of Pregnant women have Rubella vaccine:		100
Yes	0	
No	50	
Number of Pregnant women exposure to X ray:		100
Yes	0	
No	50	
Genital infection:		
Yes	1	2
No	49	98
Folic acid:	48	96
No	2	4
Number of antenatal visits:		
< 3	6	12
3 -6	37	74
> 6	7	14
Sleeping hours:		
4 – 6	24	48
7 – 8	26	52
Husband smoker:		
Yes	38	76
No	12	24
Individuals provide woman Psychological support:		
Husband	28	56
Relatives	21	42
Friends	1	2
Fetal congenital anomalies and coping pattern information:		
Yes	11	22
No	39	78
Total	**50**	**100**

Table (3) shows that. Majority of studied women (90%) were in 14 – 26 gestational weeks, all of pregnant women had no Rubella vaccine, and no X ray exposure during current pregnancy. majority of pregnant women (96%) had taken folic acid. Less than three quarter of pregnant women (74%) had 3 -6 antenatal visits during the current pregnancy. More than half (56%) of pregnant women had husbands psychological support followed by more than one third (42%) of pregnant women

Novelty Journals

ISSN 2394-7330

International Journal of Novel Research in Healthcare and Nursing
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had relatives support. More than three quarter (78%) of studied women don't know the birth defect and coping pattern information.

Table (4): Distribution of the studied pregnant women according to their knowledge regarding fetal congenital anomalies pre and post application (N=50).

Knowledge items	Pre-application						Post-application						X^2	p-value
	Correct and complete		Correct and incomplete		Don't know		Correct complete		Correct incomplete		Don't know			
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%		
Definition of birth defect	11	22	0	0	39	78	46	92	0	0	4	8	63.9	0.000\ HS
Causes of birth defect	11	22	0	0	39	78	46	92	0	0	4	8	63.9	0.000\ HS
Prevention of birth defect	4	8	1	2	45	90	46	92	0	0	4	8	85.2	0.000\ HS
Complication on fetus during pregnancy	0	0	5	10	45	90	46	92	1	2	3	6	100	0.000\ HS
Complication on fetus during delivery	1	2	4	8	45	90	46	92	2	4	2	4	96.1	0.000\ HS
Complication on fetus post-partum	2	4	3	6	45	90	46	92	1	2	3	6	92.3	0.000\ HS

HS= High Significant

Table (4) shows that, shows that majority (78%) of the studied women don't know fetal congenital anomalies definition and causes, and majority of pregnant women (90%) had no information about fetal congenital anomalies prevention and complications, before application of coping pattern on pregnant women with fetal congenital anomalies, and, there was significant difference between studied pregnant women's knowledge pre and post application as (p-value <0.001).

Table (5): Distribution of the studied pregnant women according to their knowledge regarding coping pattern at pre and post application (N=50).

Knowledge items	Pre-application						Post-application						X^2	p-value
	Correct complete		Correct incomplete		Don't know		True		False		Don't know			
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%		
Definition of coping	4	8	5	10	41	82	48	96	1	2	1	2	100	0.000\ HS
Methods of coping pattern	4	8	4	8	42	84	48	96	2	4	0	0	100	0.000\ HS

HS= High Significant

Table (5) shows that, majority (82%) of the studied women don't know cooping definition and majority (84%) don't know coping methods. and, there was significant difference between studied pregnant women's knowledge pre and post application as (p-value <0.001).

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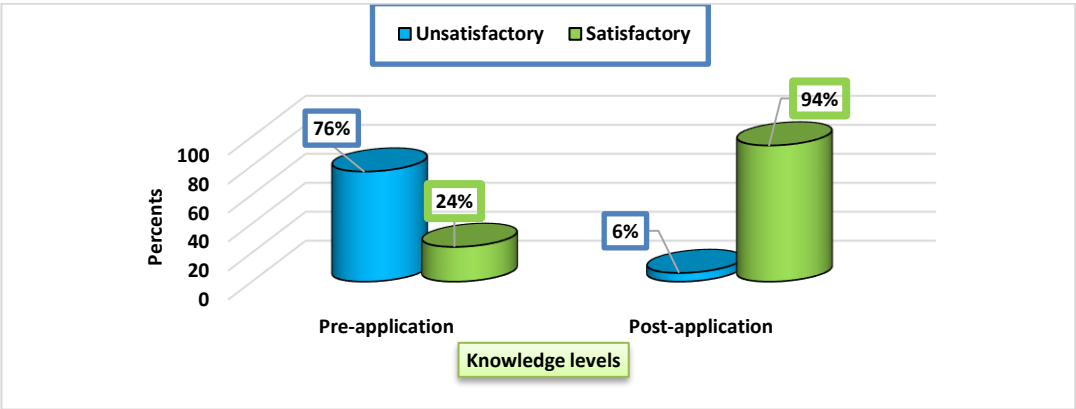

Figure (2): Fetal congenital anomalies Knowledge levels among studied women pre and post application (50).

Figure (2) shows that the post application' "Satisfactory Knowledge." level increased from 24 % pre-application to 94% post application. In addition the mean of total knowledge score was increase from 10.3±1.4 pre application to 15.6 ±2.9 post application, and was highly significant statistically (P<0.0001).

Table (6): Distribution of the studied pregnant women according to their depression levels at pre and post application (N=50).

Depression items	Pre- application								Post- application								X^2	p-value
	Little of the time		Some of the time		Good part of the time		Most of the time		Little of the time		Some of the time		Good part of the time		Most of the time			
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%		
Feel down heart and blue	0	0	2	4	28	58	20	40	48	96	2	4	0	0	0	0	96.0	<0.000\ HS
Morning when feel best	43	86	6	12	0	0	1	2	1	2	0	0	45	90	4	8	92.9	<0.000\ HS
Crying or feel like it	0	0	2	4	27	54	21	42	49	98	1	2	0	0	0	0	97.3	<0.000\ HS
Trouble sleeping at night	1	2	13	26	26	52	10	20	48	96	2	4	0	0	0	0	89.1	<0.000\ HS
Eat much as used to	36	72	12	24	2	4	0	0	0	0	1	2	46	92	3	6	88.6	<0.000\ HS
Still enjoy sex	40	80	9	18	1	2	0	0	0	0	15	30	35	70	0	0	73.1	<0.000\ HS
Losing Weight	14	28	19	38	16	32	1	2	49	98	1	2	0	0	0	0	52.6	<0.000\ HS
Constipation	2	4	29	58	18	36	1	2	48	96	2	4	0	0	0	0	84.8	0.000\ HS
Tachycardia	0	0	1	2	47	94	2	4	46	92	4	8	0	0	0	0	96.8	0.000\ HS
Tired for nothing	1	2	1	2	26	52	22	44	50	100	0	0	0	0	0	0	96.1	0.000\ HS
Mind is clear	49	98	0	0	1	2	0	0	0	0	0	0	35	70	15	30	96.1	0.000\ HS
Easy doing things used to	44	88	3	6	2	4	1	2	0	0	0	0	36	72	14	28	88.7	0.000\ HS
Restless	3	6	0	0	21	42	26	52	50	100	0	0	0	0	0	0	88.7	0.000\ HS
Hopeful about the future	40	80	0	0	8	16	2	4	4	8	2	4	33	66	11	22	52.9	0.000\ HS
Irritable	2	4	0	0	16	32	32	64	48	96	2	4	0	0	0	0	92.3	0.000\ HS
Easy make decision	47	94	3	6	0	0	0	0	0	0	0	0	37	74	13	26	100	0.000\ HS
Useful	45	90	1	2	3	6	1	0	0	0	0	0	36		14	28	85.2	0.000\ HS
Life is pretty	4	8	15	30	17	34	14	28	48	96	2	4	0	0	0	0	78.2	0.000\ HS
Others would be better if i were dead	4	8	1	2	29	58	16	32	48	96	2	4	0	0	0	0	82.6	0.000\ HS
Still enjoy things used to do	47	94	2	4	1	2	0	0	0	0	0	0	43	86	7	14	96.1	<0.000\ HS

HS= High Significant

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ISSN 2394-7330

International Journal of Novel Research in Healthcare and Nursing
Vol. 11, Issue 1, pp: (28-39), Month: January - April 2024, Available at: www.noveltyjournals.com

Table (6) shows that there is a high significant difference between studied pregnant women depression levels pre and post application as (p-value <0.001).

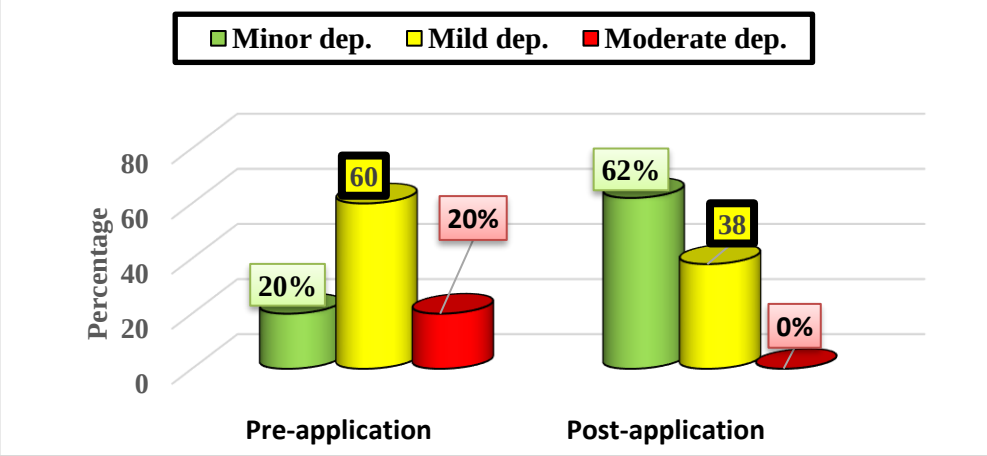

Figure (3): The effect of application of coping pattern on studied pregnant women with fetal congenital anomalies on depression level pre and post application.

Figure (3) highlighted the efficacy of post application is highly significant improvement in the depression level. Minor depression level increased from 20% pre-application to 62% post-application.in addition, mild depression decrease from 60% pre-application to 38% post application. On the other hand, moderate depression decreased from 20% pre-application to zero% post –application. And there was a high significant difference between studied pregnant women depression mean scores pre and post application as (p-value <0.001), which mean there are post- application improvement from **44.1**±4.6 to 39.4±2.8.

Table (7): Distribution of the studied pregnant women according to their anxiety levels levels at pre and post application (N=50).

Anxiety Items	Pre- application								Post- application								X^2	p-value
	Not at all		Some what		Moderately		Very much		Not at all		Some what		Moderately		Very much			
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%		
Calm	47	94	3	6	0	0	0	0	0	0	0	0	24	48	26	52	100	0.000\ HS
Secure	44	88	6	12	0	0	0	0	0	0	0	0	23	46	27	54	100	0.000\ HS
Tense	4	8	0	0	17	34	29	58	50	100	0	0	0	0	0	0	85.2	0.000\ HS
Strained	5	10	0	0	17	34	28	56	50	100	0	0	0	0	0	0	81.8	0.000\ HS
Ease	46	92	2	4	1	2	1	2	1	2	0	0	23	46	26	52	88.4	0.000\ HS
Upset	2	4	0	0	19	38	29	58	49	98	0	0	1	2	0	0	88.5	0.000\ HS
Misfortune	1	2	3	6	13	26	34	68	47	94	0	0	2	4	1	2	85.3	0.000\ HS
Satisfied	38	76	10	20	2	4	0	0	2	4	0	0	21	42	27	54	85.1	0.000\ HS
Frightened	3	6	0	0	15	30	32	64	49	98	0	0	0	0	1	2	84.8	0.000\ HS
Comfortable	44	88	3	6	0	0	3	6	1	2	0	0	20	40	29	58	85.2	0.000\ HS
Self-confident	43	2	5	10	0	0	2	4	2	4	0	0	21	42	27	54	84.9	0.000\ HS
Nervous	5	10	0	0	14	28	31	62	50	100	0	0	0	0	0	0	81.1	0.000\ HS
Jittery	4	8	0	0	14	28	32	64	50	100	0	0	0	0	0	0	85.2	0.000\ HS
Indecisive	7	14	2	4	10	20	31	62	47	94	0	0	0	0	3	6	64.7	0.000\ HS
Relaxed	39	78	6	12	2	4	3	6	1	2	0	0	19	38	30	60	78.0	0.000\ HS
Content	32	64	16	32	2	4	0	0	0	0	0	0	14	28	36	72	93.0	0.000\ HS
Worried	5	10	0	0	16	32	29	58	50	100	0	0	0	0	0	0	81.8	0.000\ HS
Confused	5	10	0	0	16	32	29	58	50	100	0	0	0	0	0	0	81.8	0.000\ HS
Steady	47	98	2	4	0	0	1	2	0	0	0	0	25	50	25	50	96.2	0.000\ HS
Pleasant	41	82	9	18	0	0	0	0	0	0	4	8	41	82	5	10	88.9	0.000\ HS

HS= High Significant

Table (7) reveal that there was a high significant difference between studied pregnant women's anxiety levels.

Novelty Journals

ISSN 2394-7330

International Journal of Novel Research in Healthcare and Nursing
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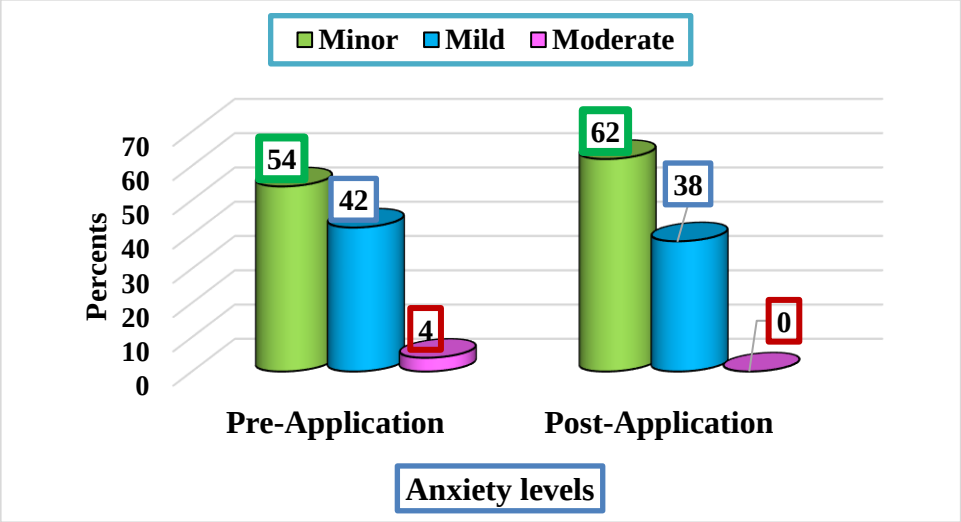

Figure (4): The effect of application of coping pattern among women with fetal congenital anomalies on anxiety levels pre and post application (N=50).

Figure (4) highlighted the efficacy of post application is highly significant improvement in the anxiety levels. Minor Anxiety level increased from 54% in pre-Application to 62% post-application. In addition, Mild Anxiety level decreased from 42% pre-Application to 38% post-Application. On the other hand moderate Anxiety decreased from 4% pre-Application to zero% post- Application. And there was a high significant difference between studied pregnant women anxiety mean scores pre and post application as (p-value <0.001), which mean there was post- application improvement. To **40.2±4.2 .**

Table (8) a: Distribution of the studied pregnant women according to coping at pre and post application (N=50).

Coping items	Pre- application								Post- application								X^2	p-value
	No		Less		Moderate		More		No		Less		Moderate		More			
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%		
Pregnant women feel tha she was a person as a resul of the experience	50	100	0	0	0	0	0	0	12	24	1	2	12	24	25	50	61.3	0.000\ HS
Daydream about things	50	100	0	0	0	0	0	0	16	32	1	2	13	26	20	40	51.5	0.000\ HS
Sleep more than usual	48	8	0	0	2	4	0	0	16	32	1	2	8	16	25	50	45.6	0.000\ HS
Go to movies or watch TV	47	98	2	4	1	2	0	0	17	34	1	2	8	16	24	48	41.7	0.000\ HS
Try to see it in a different light	50	100	0	0	0	0	0	0	12	24	0	0	3	6	35	70	61.3	0.000\ HS
Learn from the experienc	50	100	0	0	0	0	0	0	14	28	6	12	1	2	29	58	56.3	0.000\ HS
Try to get advice from someone	41	82	7	14	2	4	0	0	5	10	9	18	4	8	32	64	61.1	0.000\ HS
Talk to someone	40	80	9	18	1	2	0	0	5	10	9	18	4	8	32	64	61.0	0.000\ HS
Ask people have same experience	42	84	7	14	1	2	0	0	9	18	3	6	4	8	34	68	58.8	0.000\ HS
Concentrate her effort...	46	92	4	8	0	0	0	0	13	26	0	0	0	0	37	74	59.5	0.000\ HS
Take additional action.	48	8	2	4	0	0	0	0	13	26	0	0	0	0	37	74	59.1	0.000\ HS
Take direct action	48	8	2	4	0	0	0	0	13	26	0	0	0	0	37	74	59.1	0.000\ HS
Do what has to be done	48	8	2	4	0	0	0	0	4	8	0	0	0	0	46	92	85.2	0.000\ HS
Put her trust in god	0	0	3	6	24	48	23	46	0	0	0	0	0	0	50	100	37.0	0.000\ HS
Seek god's help	0	0	5	10	32	64	13	26	0	0	0	0	0	0	50	100	58.7	0.000\ HS
Comfort in religion	0	0	9	18	39	78	2	4	0	0	0	0	0	0	50	100	92.3	0.000\ HS
Pray more than usual	2	4	25	50	21	42	2	4	15	30	2	4	0	0	33	66	78.0	0.000\ HS
Give up trying reach goal	48	8	2	4	0	0	0	0	49	98	0	0	1	2	0	0	3.01	0.2\ S
Think hard about what steps to take.	48	8	2	4	0	0	0	0	49	98	0	0	1	2	0	0	3.01	0.2\ S
Admit to quit trying	48	8	2	4	0	0	0	0	41	82	0	0	3	6	6	12	5.55	0.06\ S

Novelty Journals

ISSN 2394-7330

International Journal of Novel Research in Healthcare and Nursing
Vol. 11, Issue 1, pp: (28-39), Month: January - April 2024, Available at: www.noveltyjournals.com

Continue, table (8) b: Distribution of the studied pregnant women according to their coping at pre and post application (N=50).

Coping items	Pre-application								Post-application								X^2	p-value
	No		Less		Moderate		More		No		Less		Moderate		More			
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%		
Restrain doing any thing too quickly	50	100	0	0	0	0	0	0	20	40	1	2	4	8	25	50	42.9	0.000\ HS
Hold off doing anything about it until the situation allow	50	100	0	0	0	0	0	0	20	40	1	2	4	8	25	50	42.9	0.000\ HS
Force herself to wait for the right time to do something	48	8	0	0	2	4	0	0	13	26	7	14	7	14	23	46	58.7	0.000\ HS
Discuss feeling with someone	36	72	11	22	3	6	0	0	0	0	11	22	6	12	33	66	70.0	0.000\ HS
Try to get emotional support	35	70	12	24	3	6	0	0	0	0	11	22	6	12	33	66	69.0	0.000\ HS
Learn from the experience	50	100	0	0	0	0	0	0	14	28	6	12	1	2	29	58	56.3	0.000\ HS
Try to get advice from someone	41	82	7	14	2	4	0	0	5	10	9	18	4	8	32	64	61.1	0.000\ HS
Talk to someone about how I feel	37	74	11	22	2	4	0	0	5	10	11	22	1	2	33	66	57.7	0.000\ HS
Accept that happened and can't changed	48	96	0	0	2	4	0	0	13	26	0	0	1	2	36	72	56.4	0.000\ HS
Accept the reality of the fact	48	96	0	0	2	4	0	0	11	22	0	0	1	2	38	76	61.5	0.000\ HS
Learn to live with it	48	96	0	0	2	4	0	0	11	22	0	0	1	2	38	76	61.5	0.000\ HS
Focus on dealing with problem	50	100	0	0	0	0	0	0	21	42	0	0	16	32	13	26	40.8	0.000\ HS
Try hard to prevent things…	50	100	0	0	0	0	0	0	21	42	0	0	16	32	13	26	40.8	0.000\ HS
Keep herself from getting distracted by other thoughts	50	100	0	0	0	0	0	0	21	42	0	0	15	30	14	28	40.8	0.000\ HS
Make a plan of action	50	100	0	0	0	0	0	0	5	10	0	0	0	0	45	90	81.8	0.000\ HS
Try to come up with strategy	50	100	0	0	0	0	0	0	5	10	0	0	0	0	45	90	81.8	0.000\ HS
Think about handle the problem	50	100	0	0	0	0	0	0	5	10	0	0	0	0	45	90	81.8	0.000\ HS
	50	100	0	0	0	0	0	0	5	10	0	0	0	0	45	90	81.8	0.000\ HS

HS= High Significant

Table (8) revealed that there was a high significant difference between studied pregnant women coping pre and post application as (p-value <0.001), which mean there was post application - improvement.

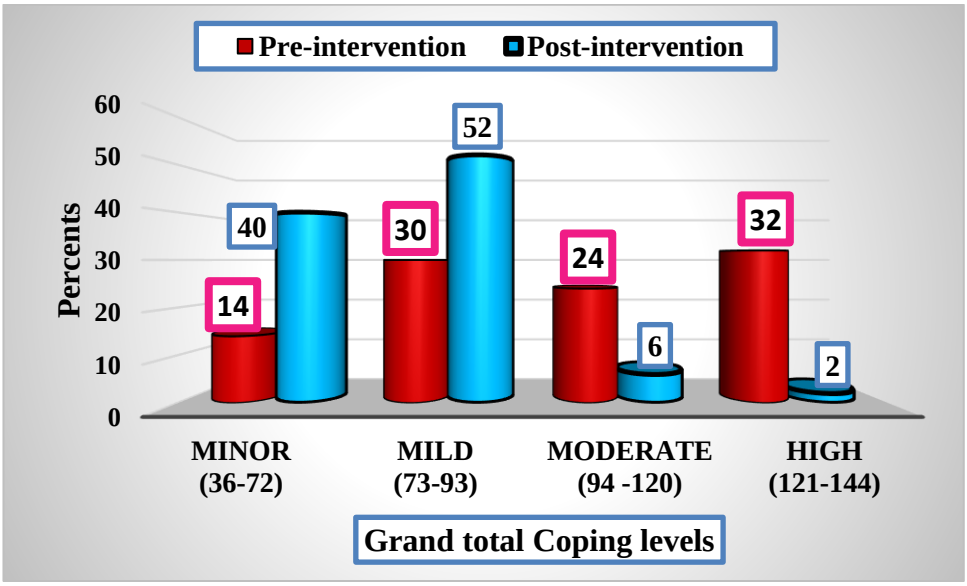

Figure (5) The effect of coping pattern application on coping grand total levels among pregnant women with fetal congenital anomalies pre and post application (N=50).

Novelty Journals

ISSN 2394-7330

International Journal of Novel Research in Healthcare and Nursing
Vol. 11, Issue 1, pp: (28-39), Month: January - April 2024, Available at: www.noveltyjournals.com

Figure (5) shows that that coping Pattern Post application revealed a highly significant improvement in all coping subdivisions.

Table (9): Distribution of the studied pregnant women clinical data and fetal biophysical profile (N = 50).

Clinical data of current pregnancy	No.	%
Pregnant Women clinical data:		
Body mass index:		
18 - < 25	**11**	**22**
> 25	**39**	**78**
Pregnant women vital signs		
Normal	**50**	**100**
Vaginal discharge No	**50**	**100**
Amniocentesis No	**50**	**100**
Vaginal bleeding: No	**50**	**100**
Placenta position:		
Normal	**50**	**100**
Fetal clinical data:		
Fetal heart rate:		
Normal	**34**	**68**
Abnormal	**16**	**32**
Fetal movement:		
Present	**49**	**98**
Absent	**1**	**2**
Amniotic fluid volume:		
Normal	**41**	**82**
Polyhydramnios	**6**	**12**
Oligohydramnios	**3**	**6**
Gestational age by US:		
1-13 weeks	**3**	**6**
14 – 26 weeks	**45**	**90**
>26 weeks	**2**	**4**
Respiration:		
Normal	**49**	**98**
Abnormal	**1**	**2**
Fetal Tone:		
Normal	**36**	**72**
Abnormal	**14**	**28**
Total	**50**	**100**

Table (9) shows that majority (78%) of studied pregnant women had body mass index > 25, all of studied pregnant women had normal physical examination. Regarding fetal examination, two third of the fetuses (68%) had normal heart rate and majority of the fetuses (98%) had normal movement and majority of the fetuses (82%) had normal volume of amniotic fluid and about half of the fetus (49%) had normal respiration.

Table (10): Correlation coefficient between Anxiety, depression and total coping among studied pregnant women (N=50).

	Total depression	
	R	**P**
Total Anxiety	0.38	<0.001
Total Coping	- 0.48	<0.0001

Table (10) represented that a good significant positive correlation between total score of Anxiety as independent variable and total score of depression as dependent variables (r=0.38, p<0.001). However, the correlation between coping (as independent variable and depression as dependent variable demonstrated a high-significant negative correlation (r= - 0.48, p<0.0001).

5. DISCUSSION

According to women socio -demographic characteristics; In relation to age categories of the studied pregnant women approximately one quarter of the studied pregnant women aged between 18 to 25 years with mean of 28.8 ± 5.1 year. this may be due to age is a fundamental factor affecting woman's fertility, approximately half of pregnant women had secondary education., approximately half of pregnant women were housewives, more than half of pregnant women were living in rural area.

The current study finding matches with**.** ***(Mohamed et al., 2022*****)** Who studied that: Effect of Coping Strategies Education on Pregnant Women's Knowledge and Anxiety with Detected Fetal Anomalies in antenatal clinic at Qena Hospital and south-vally University Hospital and reported that more than three quarter of the pregnant women their age ranged between 18 < and 30 years with a mean ± SD 24.58 ± 5.42, and more than half of pregnant women had secondary education. More than half of pregnant women were house wife and approximately three quarter of them were living in rural area.

Also The current study finding in same line with ***(Yashambel et al., 2023)*** whose studied Maternal Coping Mechanism and Its associated factors following perinatal loss in Hospitals of Wolaita Zone, South Ethiopia, 2021 they founded that. The approximately three quarter of the participants fall in the age category of 18–35 years. More than one quarter had attended up to secondary education, and more than three quarter of participant had college/university education. More than half of studied women were lived at rural area.

According to pregnant women obstetric history: The current study finding recording that majority of studied pregnant women were in 14 – 26 gestational age, approximately half of pregnant women not have consanguineous marriage and approximately one third of pregnant women had no history of abortion, more than two third of pregnant women had previous baby anomaly. And majority of pregnant women were multigravida.

The current study finding not support with ***Mohamed et al. (2022)*** Reported that more than half of the studied pregnant women were between 28 <32 gestational weeks, more than one third of pregnant women were consanguineous marriage, majority of pregnant women had a history of abortion, and majority of pregnant women had no a previous baby anomaly. Concerning gravidity more than three quarter of the studied pregnant women were multigravida.

According to pregnant women's level of knowledge regarding fetal anomalies and coping pattern pre and post application the present study showed that the majority of pregnant women had poor knowledge in pre-application and there was a highly significant improvement in the total knowledge score in post application. This may be related to pregnant women in the present study were living in rural areas, and lack in proper educational and awareness program, sessions this circumstance may affect and limit the chances to get correct/complete knowledge regarding fetal congenital anomalies and coping pattern. And may be attributed to knowledge deficit and resources in the rural areas.

The current study finding not supported with ***(Kanchana & Youhasan, 2018)*** who studied that Knowledge and Attitudes on Fetal Anomalies among Pregnant Women in teaching hospital mahamodara, Galle seri lanka and reported that, more than half of studied women had specific knowledge on birth defects with good knowledge, specific knowledge on risk factors and causes related to birth defects with good knowledge, specific knowledge on pre conceptual care with good knowledge and specific knowledge on preventive action with good knowledge. And less than one quarter had poor knowledge regarding birth defects.

Also, the current study results not matching with **(*Wake et al., (2022)*** who studied that Pregnant mother's knowledge level and its determinant factors towards preventable risk factors of congenital anomalies among mothers attended health institutions for antenatal care, Ethiopia and founded that over half of pregnant women had good knowledge of preventable risk factors of congenital anomalies.

Related to studied pregnant women depression score pre and post application the present study founded that more than half of studied pregnant women had mild depression.

This result is in agreement with ***(Ersak et al., 2023)*** who studied that "Evaluation of maternal anxiety and depression levels in pregnancies with fetal anomalies" in Ankara City Hospital and reported that the diagnosis of the fetal anomaly was associated with increased depression symptoms in pregnant women. This agreement related to fetal congenital anomalies affected the pregnant women psychological status.

According to total anxiety level among studied pregnant women pre and post application the current study mentioned that more than half of studied pregnant women had moderate anxiety pre-application and it is improved in post application, and there was a high significant difference between studied pregnant women anxiety mean scores pre and post application, which mean there was post- application improvement.

The current study results in agreement with ***(Roslan et al., 2021)*** who studied that Maternal Mental Health following Ultrasonographic Detection of Fetal Structural Anomaly in the Midst of the COVID-19 Pandemic and reported that the maternal stress and anxiety levels were significantly higher among groups with fetal structural anomaly. The maternal stress and anxiety level were significantly affected within one-to-two weeks post-detection of fetal structural anomaly. That agreement means that fetal congenital anomalies the main cause of anxiety.

According to studied pregnant women coping at pre and post application the current study reported that **Religion** cope was the mostly used as a coping Strategies.

The current study finding support **with *(Irani et al., 2019):*** who studied that Coping Strategies of pregnant women with detected fetal anomalies in Iran: Qualitative study and reported that Religion and spirituality were the most important coping strategies of mothers in the study. That agreement because of Religion was an effective way of coping with problems due to its important impact on people's lives. Thus, QOL (Quality of Life) and coping strategies can be promoted by improving the individual religious attitude. people honestly believed in their religious teachings. religion is the only thing that can improve the individuals' mental health.

Also .The current study finding in the same line with ***(Hemation et al., 2021)*** who studied that "Reviewing the Anxiety in Pregnant Mothers with Fetuses Having Positive Cardiac Anomaly and Its Relation with Birth Outcomes" who mentioned that the role of emotional support of mother's relatives or religious beliefs such as trusting in God may also be important.

Related of application of coping pattern application on anxiety among women with fetal congenital anomalies pre and post application the current study presented that more than three quarter of studied pregnant women had moderate anxiety pre-application and post application highly significant improvement in anxiety level.

The current study results matching with ***(Hemation et al., 2021)*** mentioned that anxiety and depression were common in pregnant women with fetuses who have cardiac anomaly.

Also the current study results matching with ***(Ramie & Mahdalena, 2023)*** who studied that "Coping Mechanism Decrease Anxiety Levels of pregnant women during the COVID-19 Pandemic in South Kalimantan" and presented that majority of respondents experienced moderate anxiety.

Additionally, the current study results agreed with ***(Mirtabar et al., 2023)*** who studied that "Women's worries about prenatal screening tests suspected of fetal anomalies: a qualitative study" and they founded that "fear and anxiety" were the most common reactions of pregnant women toward positive or suspected fetal anomaly tests. That means that diagnosis of fetal congenital anomalies may be predisposing factor of pregnant women anxiety.

Also The current study finding .in the same line with ***Ersak et al., (2023)*** who studied that "Evaluation of maternal anxiety and depression levels in pregnancies with fetal anomalies" and registered that carrying a fetus with an anomaly was found to be associated with an increased level of anxiety during pregnancy.

Regarding. The effect of application of coping pattern on coping subdivisions mean scores as well as rand total coping mean score among mothers with fetal congenital anomalies pre and post application current study funded that planning coping strategies highly significant improvement post application. That because use of planning cope as one of coping strategies can help pregnant women to control of their thoughts and emotions, promote relaxation and promote feeling of well-being and self-confidence.

The current study results agreement with ***(Rastin et al., 2018)*** who studied that the effectiveness of problem-focused coping strategies training on quality of Life in pregnant women with genetic risk of fetal abnormalities and mentioned that problem-focused coping strategy has reduced anxiety in pregnant women with genetic risk of fetal abnormalities.

Additionally, the current study founded that Religion was the most important coping strategies with mean standard deviation 15.0± 1.4.

The current study results in the same line with ***(Mohamed et al., 2022)*** who studied that Coping Strategies of Pregnant Women with Detected Fetal Anomalies in Iran: A Qualitative Study and they founded that Religion and spirituality were the most important coping strategies that agreement because religion was an effective way of coping with problems due to its important impact on pregnant women's lives. Thus, QOL (Quality of Life) and Coping strategies can be promoted by improving the Individual religious attitude. Because using spiritual coping strategies may play avital role in the coping process in pregnant women with fetal abnormalities. Therefore, religious counseling by midwives or healthcare professionals can increase mothers' mental health and even help them cope with conditions like fetal death and pregnancy loss.

Related Correlation coefficient between Anxiety, depression and total coping among studied pregnant women, the current study finding reported that there was good significant positive correlation between total score of Anxiety as independent variable and total score of depression as dependent variables ($r=0.38$, $p<0.001$). However, the correlation between coping (as independent variable and depression as dependent variable demonstrated a high-significant negative correlation ($r= -0.48$, $p<0.0001$).

The current study results in the same line with **(Tan et al,2023)** who studied that Anxiety, depression, psychological stress and coping style in medical postgraduates in southeastern China when restricted to commuting between the campus and hospital during the COVID-19 pandemic

Who mentioned that self-related depression and self-related anxiety were positively correlated with negative coping style ($r=0.251$, $r=0257$, $p<0.01$ that agreement means that using of different coping pattern can reduce depression and anxiety.

6. CONCLUSION

On the light of the current study results, majority of pregnant women have poor knowledge in pre-application and there is a highly significant improvement in the total knowledge score in post application, majority of them used religious and active cope as a coping pattern (were praying and trust in God. and the lowest used one was behavior disengagement. And there is a highly significant improvement in the total coping score post application. The result of the current study supported by hypothesis.

7. RECOMMENDATIONS

Based on the study finding, the following were recommended:

- Continuous education sessions, for pregnant women with fetal congenital anomalies to improve their knowledge skills in dealing with the problem and improve maternal and fetal well-being.
- Reputation of the study on large sample to obtain generalization of the study.

Further recommendations.

- Antenatal health care team should have a genetic nurse to provide a genetic counselling for the women (preconception or during antenatal visit) as well as provide them with different coping pattern if needed.
- Continuous education programmers, for nurses to improve their skills and knowledge in how to deal with pregnant women with fetal congenital anomalies diagnosis.

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