Assessment of Pregnant Women Knowledge Regarding Fetal Congenital Anomalies and Coping Pattern

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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 assess Pregnant women knowledge regarding fetal congenital anomalies and coping pattern **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 majority of pregnant women have poor knowledge regarding fetal congenital anomalies and coping pattern. **Conclusion**: The present study concluded that majority of pregnant women have poor knowledge regarding fetal congenital anomalies and coping pattern. **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.

Key words: Pregnant Women, Fetal Congenital Anomalies, Coping Pattern

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.

AIM OF THE STUDY

The current study aimed to assess pregnant women knowledge regarding fetal congenital anomalies and coping pattern.

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 previous psychiatrically disorder.

- Pregnant women decided termination of pregnancy.

Sample size:

The sample of the current study was collected over period of six months. In this period sample size was 50 pregnant women diagnosed with fetal congenital anomaly.

Sample technique: The pregnant women selected according to the registered list.

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 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 (consisted of 2 opened ended questions). such as (coping definition, methods of coping patter).

Scoring system:

Concerning determining knowledge among studied women the questionnaire contained 8 items, each was three points (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 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 part 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. 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 "Minor." 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. 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".

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 researcher had visited the study setting and met the studied pregnant women, to assess women's needs

- The researcher met the pregnant women in the studied setting. Then the researcher introduced herself, informed consent was obtained from each studied pregnant woman after an explanation of the study aim, all pregnant women interviewed individually to collect data related socio-demographic data, obstetric and current history.

- Pre- test knowledge regarding fetal anomalies and coping pattern assessment interview questionnaire was applied on pregnant women with fetal congenital anomalies consuming,10 minutes.

- Pre- test knowledge to assess pregnant women depression levels consuming,10 minutes.

- Pre- test knowledge to assess pregnant women anxiety levels consuming,10 minutes.

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.

RESULTS

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

Socio demographic characteristics	No.	%
Educational Level		
Can't read and write	10	20
Read & Write	11	22
Secondary education	22	44
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.
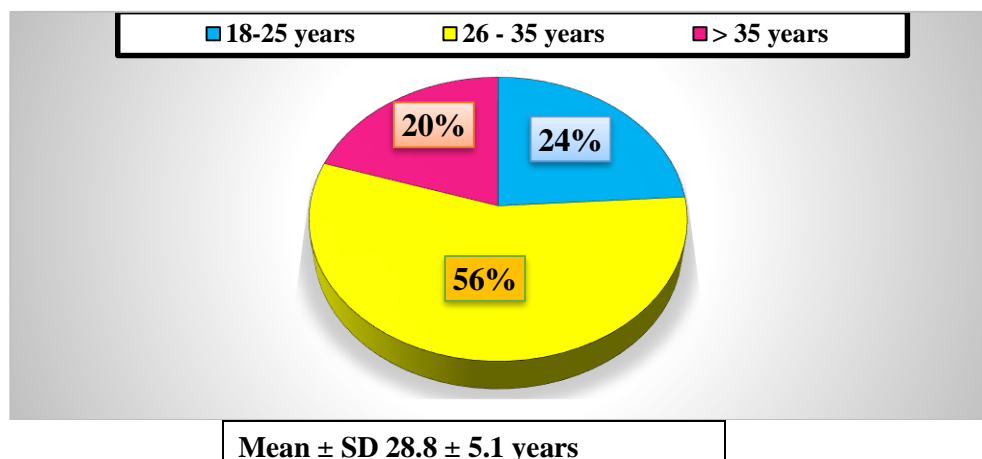

Mean ± SD 28.8 ± 5.1 years

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.

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	48
5 – 10	22	44
>10	4	8
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: (No=47)		
Yes	5	10.6
No	42	89.4
Mode of previous deliveries:		
Cesarean	17	36.2
Normal	30	63.8
Intrauterine fetal death:		
Yes	12	25.5
No	35	74.5
Deformed baby:		
Yes	37	78.7
No	10	21.3
Previous Gestational hypertension:		
Yes	3	6.4
No	44	93.6
Abortions:		
Yes	15	31.9
No	32	68.1
Number of abortions:		
No	29	61.7
1 – 2	17	36.2
≥ 3	1	2.1
Total	**50**	**100**

Table (2) reveals 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. (N = 50).

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
No	50	
Number of Pregnant women exposure to X ray:		100
No	50	
Genital infection:		
Yes	1	2
No	49	98
Folic acid:		
yes	48	96
No	2	4
Number of antenatal visits:		
< 3	6	12
3 -6	37	74
> 6	7	14
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 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 (N=50).

Knowledge items	Correct and complete		Correct and incomplete		Don't know	
	No.	%	No.	%	No.	%
Definition of birth defect	11	22	0	0	39	78
Causes of birth defect	11	22	0	0	39	78
Prevention of birth defect	4	8	1	2	45	90
Complication on fetus during pregnancy	0	0	5	10	45	90
Complication on fetus during delivery	1	2	4	8	45	90
Complication on fetus post-partum	2	4	3	6	45	90

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.

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

Knowledge items	Correct complete		Correct incomplete		Don't know	
	No.	%	No.	%	No.	%
Definition of coping	4	8	5	10	41	82
Methods of coping pattern	4	8	4	8	42	84

Table (5) shows that, majority (82%) of the studied women don't know cooping definition and majority (84%) don't know coping methods.

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

The studied women 'Depression levels	A little of the time		Some of the time		Good part of the time		Most of the time	
	No	%	No	%	No	%	No	%
1Pregnant women feel down-hearted and blue.	2	4	0	0	28	56	20	40
2. Morning is when I feel the best.	43	86	6	12	0	0	1	2
3. Pregnant women have crying spells or feel like it.	0	0	2	4	27	54	21	42
4. Pregnant women have trouble sleeping at night.	1	2	13	26	26	52	10	20
5. Pregnant women eat as much as I used to.	36	72	12	24	2	4	0	0
6. Pregnant women still enjoy sex.	40	80	9	18	1	2	0	0
7. Pregnant women notice that I am losing weight.	14	28	19	38	16	32	1	2
8 Pregnant women have trouble with constipation.	2	4	29	58	18	36	1	2
9. Pregnant women heart beats faster than usual.	0	0	1	2	47	94	2	4
10 Pregnant women get tired for no reason.	1	2	1	2	26	52	22	44
11. Pregnant women mind is as clear as it used to be.	49	98	0	0	1	2	0	0
12. Pregnant women find it easy to do the things I used to.	44	88	3	6	2	4	1	2
13. Pregnant women are restless and can't keep still.	3	6	0	0	21	42	1	2
14. Pregnant women feel hopeful about the future.	40	80	0	0	8	16	2	4
15 Pregnant women are more irritable than usual.	2	4	0	0	16	32	32	64
16. Pregnant women find it easy to make decisions.	47	94	3	6	0	0	0	0
17 Pregnant women feel that I am useful and needed.	45	90	1	2	3	6	1	2
18. Pregnant women life is pretty full.	4	8	15	30	17	34	14	28
19. Pregnant women feel that others would be better off if I were dead.	4	8	1	2	29	58	16	32
20. Pregnant women still enjoy the things I used to do.	47	94	2	4	1	2	0	0
Total mean score of depression levels	44.1 ± 4.6							

Table (6) presents the distribution of the studied women according to their Depression levels. The highest percentages of negative depression items were in "good part of the time" which ranged from 0 to 94%. In addition, the lowest percentages were in" most of the time" which ranged from 0 to 32%. However, The highest percentages of positive depression items was in "little part of the time" which ranged from 0 to 94%. In addition the lowest percentages was in" most of the time" which ranged from 0 to 32%. The mean total score of depression was 44.1± 4.6.

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

Anxiety Items	Pre- application							
	Not at all		Some what		Moderately		Very much	
	No.	%	No.	%	No.	%	No.	%
Calm	47	94	3	6	0	0	0	0
Secure	44	88	6	12	0	0	0	0
Tense	4	8	0	0	17	34	29	58
Strained	5	10	0	0	17	34	28	56
Ease	46	92	2	4	1	2	1	2
Upset	2	4	0	0	19	38	29	58
Misfortune	1	2	3	6	13	26	34	68
Satisfied	38	76	10	20	2	4	0	0
Frightened	3	6	0	0	15	30	32	64
Comfortable	44	88	3	6	0	0	3	6
Self-confident	43	2	5	10	0	0	2	4
Nervous	5	10	0	0	14	28	31	62
Jittery	4	8	0	0	14	28	32	64
Indecisive	7	14	2	4	10	20	31	62
Relaxed	39	78	6	12	2	4	3	6
Content	32	64	16	32	2	4	0	0
Worried	5	10	0	0	16	32	29	58
Confused	5	10	0	0	16	32	29	58
Steady	47	98	2	4	0	0	1	2
Pleasant	41	82	9	18	0	0	0	0
Total mean score of anxiety levels	**46.5 ± 5.4**							

Table (7) presents that. The highest percentages of Anxiety items were in "Not at all" which ranged from 0 to 100%. In addition, the lowest percentages were in "Somewhat so" which ranged from 0 to 8%. The mean total score of anxiety was 46.5 ± 5.4

Table (8) a: Distribution of the studied pregnant women according to coping pattern(N=50).

Coping items	No		Less		Moderate		More	
	No.	%	No.	%	No.	%	No.	%
Pregnant women feel that she was s person as a result of the experience	50	100	0	0	0	0	0	0
Daydream about things	50	100	0	0	0	0	0	0
Sleep more than usual	48	8	0	0	2	4	0	0
Go to movies or watch TV	47	98	2	4	1	2	0	0
Try to see it in a different light	50	100	0	0	0	0	0	0
Learn from the experience	50	100	0	0	0	0	0	0
Try to get advice from someone	41	82	7	14	2	4	0	0
Talk to someone	40	80	9	18	1	2	0	0
Ask people have same experience	42	84	7	14	1	2	0	0
Concentrate her effort...	46	92	4	8	0	0	0	0
Take additional action.	48	8	2	4	0	0	0	0
Take direct action	48	8	2	4	0	0	0	0
Do what has to be done	48	8	2	4	0	0	0	0
Put her trust in god	0	0	3	6	24	48	23	46
Seek god's help	0	0	5	10	32	64	13	26
Comfort in religion	0	0	9	18	39	78	2	4
Pray more than usual	2	4	25	50	21	42	2	4
Give up trying reach goal	48	8	2	4	0	0	0	0
Think hard about what steps to take.	48	8	2	4	0	0	0	0
Admit to quit trying	48	8	2	4	0	0	0	0

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

Coping items	Pre-application							
	No		Less		Moderate		More	
	No.	%	No.	%	No.	%	No.	%
Restrain doing any thing too quickly	50	100	0	0	0	0	0	0
Hold off doing anything about it until the situation allow	50	100	0	0	0	0	0	0
Force herself to wait for the right time to do something	48	8	0	0	2	4	0	0
Discuss feeling with someone	36	72	11	22	3	6	0	0
Try to get emotional support	35	70	12	24	3	6	0	0
Learn from the experience	50	100	0	0	0	0	0	0
Try to get advice from someone	41	82	7	14	2	4	0	0
Talk to someone about how I feel	37	74	11	22	2	4	0	0
Accept that happened and can't changed	48	96	0	0	2	4	0	0
Accept the reality of the fact	48	96	0	0	2	4	0	0
Learn to live with it	48	96	0	0	2	4	0	0
Focus on dealing with problem	50	100	0	0	0	0	0	0
Try hard to prevent things…	50	100	0	0	0	0	0	0
Keep herself from getting distracted by other thoughts	50	100	0	0	0	0	0	0
Make a plan of action	50	100	0	0	0	0	0	0
Try to come up with strategy	50	100	0	0	0	0	0	0
Think about handle the problem	50	100	0	0	0	0	0	0
	50	100	0	0	0	0	0	0

Table (8) reveal that .The highest percentages of coping items was in " **No**" which ranged from 0 to 100%. In addition the lowest percentages was in "More" response which ranged from 0 to 46%. The mean total score of coping pre-intervention was 46.3 ± 3.6.

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 $\pm$ 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 the present study showed that the majority of pregnant women had poor knowledge and more than two third were living in rural area .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 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 may be related to fetal congenital anomalies affected the pregnant women psychological status.

According to total anxiety level among studied pregnant women the current study mentioned that more than half of studied pregnant women had moderate anxiety.

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.

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.

According to studied pregnant women coping the current study reported that **most of studied women not use** coping pattern .

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 the most of studied sample did not use the coping strategies because they did not have coping strategies information.

CONCLUSION

On the light of the current study results, concluded that majority of pregnant women had poor knowledge regarding fetal congenital anomalies and coping pattern.

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.

REFERENCES

Abdu, H. (2019): prevalence and outcomes of birth defects in newborns of South Wollo and Oromia Zones retrospective Study.Ethiopian Journal of Health Development vol.33 No.3(2019).

Alhamdan, W., Moukaddem, A., AlOtaibi, N., Aledrees, A., Alhatem, N., Alfaraj, S. and Aladham, M. (2020): Knowledge regarding teratogens among women of childbearing age at a large tertiary care center in Saudi Arabia. Journal of Family Medicine and Primary Care 9(6):3088-3093.

Bashir, A.A. (2019): Congenital Malformations: Prenatal Diagnosis and Management International Journal of Pediatrics & Neonatal Care. International Journal of Pediatrics & NeonatalCare,5(149). https://doi.org/10.15344/2455-2364/2019/149.

Carver, C.S. (2013): COPE Inventory Measurement Instrument Database for the Social. Science. Retrieved from www.midss.ie

Crider, C. (2020): Pregnancy Happiness: 13 Tips for Happy and Healthy Pregnancy. https//www. Healthline. com.

Crowe, S. & Sarma, K. (2022): Coping with Covid-19: stress, control and coping among pregnant women in Ireland during the Covid-19 pandemic.*BMC Pregnancy and Childbirth* .22 (274). Egyptian Journal of Care 13(2) :640-654.

ElHwat, F.T., Mourad, G.H. M., Isamaiel, S.S., and Abdel-Fatah, W.O. (2023): The Effect of An Educational Program ON Enhancing Knowledge ,Attitude and practices of parents Having Children With Autism . .12(4),9680-9697.

Ersak, D., Elmas, Can, K., Kara, O. and Sahin, D. (2023): Evaluation of maternal anxiety and depression levels in pregnancies with fetal anomalies. https://doi.org/10.21203/rs.3.rs-2577192/v1.

Irani, M., Khadivzadeh, T., Asghari-Nekah and Ebrahimipour, H. (2019): Coping Strategies of pregnant women with detected fetal anomalies in Iran: Qualitative study. Iran Journal of Nurse-Midwifery.24(3): 227-233.

Kamal, N. & Othman, N. (2018): Inceicance and types of congenital anomalies in newborn in sulaimaniyah City,Iraq acta medica Iranica. 569(12) 771.

Kanchana, K.T.G. &Youhasan, P.Y. (2018): Knowledge and Attitudes on Fetal Anomalies among Pregnant Women in teaching hospital mahamodara, Galle. International Journal of Public Health Science,7(4),231-235.

Maciejewski, M. (2018): Quasi-experimental design. Biostatistics & Epidemiology 4(8):1-10.

Mangla, M., Divya Sree, K., Kumar, N. and Panda, M. (2023): Knowledge and Attitude of Young Married Women Regarding Congenital Anomalies in the Fetus: A Cross-Sectional Questionnaire-Based Study from South-Central India. Journal of Fetal Medicine ;10(01):29–35.

Mirtabar, S., Pahlavan, Z., Algoltabar, S., Nasri, K.H. and Faramarzi, M. (2023): Nasiri Amin. F, Nikpour. M, Behmanesh. F, Taheri S, Barat. S, Women's worries about prenatal screening tests suspected of fetal anomalies: a qualitative study. BMC Womens Health 23n.66 (2023).

Mohamed, H., Tosson, M., Elkhatek, N., Elshafie, W., Hassan, N., and Abddelhalim, N. (2022): Effect of Coping Strategies Education on Pregnant Women's Knowledge and Anxiety with Detected Fetal Anomalies

Nolan, M. and Misca, G. (2018): Areview of coping Strategies, Parenting Programmes and Psychological therapies available to military

parent with children under 5. International Journal of Birth and Parent Education, Vol 5 (4) pp 10-14.

Ramie, A. and Mahdalena, M. (2023): "Coping Mechanism Decrease Anxiety Levels of pregnant women during the COVID-19 Pandemic in South Kalimantan. Lecture Notes in Health Studies v1n (1), December 2022.

Russo F.M., Cordier, A. G., De Catte, L., Saada, J., Benachi, A. & Deprest, J. (2018): Proposal for standardized prenatal ultrasound assessment of the fetus with congenital diaphragmatic hernia by the European reference network on rare inherited and congenital anomalies (ERNICA). *Prenatal Diagnosis*, *38*(9), 629–637.

Sharma, B., Venkataseshan, S., Suri, V., Choudhary, N., Kakkar, N. and Aggarwal, N. (2021): Spectrum of Birth Defects amongst Live Birth, Stillbirth and Abortions. Indian Journal of Pediatric,88(6):603.

Spielberger, C.D. (1989): State-Trait Anxiety Inventory: Bibliography (2nd ed.). Palo Alto, CA: Consulting Psychologists Press*.

Stanisławski,K (2019): The Coping Circumplex Model: An Integrative Model of the Structure of Coping With Stress,10(694). https://doi.org/10.3389/fpsyg.2019.00694.

Theroux, R. and Hersperger, C.H. (2022): Mnaging broken expectations after a diagnosis of fetal anomaly. SSM-Quality Research in Health ,2 ,100188.

Thomson, B., Velusamy, R. & Martin, A. (2021): Severe tachypnoea and dyspnoea due to physiological hyperventilation in pregnancy. *Obstetric Medicine,*16(1):69-71.

Thurber, S., Snow, M. and Honts, C.H. (2002): The Zung Self Rating Deprassion Scale.9(4):401-405.

Wake, G., Fitie, G., Endris, S. and Abeway, S.H. (2022): 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, Clincal Epidemiology and Global Health.14(1):100973.

Yeshambel, A., Alene, T., Asmare, G., Asnake, G., Anmut, W., Abebe, K. (2022): Maternal Coping Mechanism and Its associated factors following perinatal loss in Hospitals of Wolaita Zone, South Ethiopia, 2021. March DOI: https://doi.org/10.21203/rs.3.rs-1484120/v1.