
ORIGINAL ARTICLE

Intellectually and Physically Disabled Pregnant Women: Their Experiences and Satisfaction with the Delivered Antenatal Care

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ABSTRACT

Many women with disabilities want to experience pregnancy. However, women with disabilities face a lot of challenges in accessing healthcare and support before, during, and following their pregnancies. To assess the intellectually and physically disabled pregnant women's experiences and satisfaction with the bestowed delivered prenatal care. A descriptive exploratory correlational research design was used to recruit 60 disabled pregnant women conveniently from Maternal & Child Care Centers (MCH), Ministry of health, and Obstetric outpatient's clinic at Woman Health Hospital, Assiut University, Egypt from September 2019 to February 2020. A semi-structured interview consisted of 3 parts including demographic characteristics, maternity survey, and overall satisfaction with the delivered care during pregnancy. The participants Mean±SD age is 33.28 (8.12), the majority are Muslims and living in rural areas. More than One-fourth have physical disabilities, one-fourth have cognitive and mental disabilities. There is no relationship between types of disabilities and antenatal checkups. There is no significant association between participants' disabilities and feeling of being respected and dignified at $p \leq 0.01$. Conclusion and recommendations: It was concluded that antenatal services need to be more accessible and equipped with all related specific disabilities, and there was a moderate satisfaction level regarding the received antenatal care in a dignified manner which needs to be improved in future research. Therefore, acritical attention should be given to the importance of health care providers' training on maternity service for disabled pregnant women.

Keywords: Challenges, Disabilities, Intellectual, Physical, Prenatal

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INTRODUCTION

Women with disabilities feel the desire for motherhood as much as women without special clinical needs. Their fertility is often not impacted by disability, and they can have children. However, several issues must be considered, depending on the physical, mental, or developmental disability [1]

Women with a physical disability often experience higher risks of cesarean section, preterm birth, growth restriction, and low birth weight when compared to women without disabilities. Women with intellectual or developmental disabilities are often young, unmarried, unemployed, and have limited access to care. They often struggle following instructions or recognizing the conditions that require medical help. They are more likely to experience preeclampsia, diabetes, venous thromboembolism, cesarean delivery, infant low birth weight, preterm birth, neonatal intensive care unit admission, and perinatal death. [1].

Fetus and the newborn of disabled mothers are exposed to specific risks depending on the mother's conditions. The main risk fetuses are exposed to during pregnancy is exposure to drugs and therapies which cannot be suspended and whose effects over pregnancy are unknown. Moreover, some conditions causing maternal disability could elevate the risk for the baby to be similarly affected. Women with different disabilities must be provided with

accurate, accessible, and understandable information about options regarding contraception and reproduction [2].

Disability is defined by an individual's impairment in function. The Americans With Disabilities Act defines disability as "a physical or mental impairment that substantially limits one or more major life activities" [3]. An alternative view is called the "Social Model" of disability, which views disability as "the degree to which human-made and societal barriers place restraints on an individual who may have a bodily impairment". According to WHO, Disability is a compounding factor that impacts many aspects of a person's life, [4]. People with a disability could experience poorer health outcomes, have less access to education and work opportunities, and are more likely to live in poverty than those without a disability. This can be caused by many factors including a physical barrier to access buildings and transportation, social stigma, lack of service provision, and increased likelihood of being left out of decision-making that affects their wellbeing [5].

Many women with disabilities want to experience pregnancy. Pregnancy rates among them have grown in recent years and are similar to pregnancy rates of women without disabilities in the same age and income groups. [6-7]. Despite these statistics, women with disabilities remain at heightened risk for pregnancy-related health complications [3,8]. They face challenges accessing healthcare and support before, during, and following their pregnancies, which adds to these health disparities [9-10].

The physical, mental, intellectual, or sensory impairment disability may interact with various barriers that may hinder a person's full and effective participation in society on an equal basis with others [11]. Throughout the developing world, it is reported that people with disabilities face more challenges to access to healthcare services due to barriers and often experience unmet healthcare needs particularly maternal healthcare. Therefore, Women with disabilities are particularly vulnerable to deficiencies in healthcare services depending on disability type and setting. Some health conditions associated with disability result in poorer health and extensive healthcare needs, others do not, therefore, need access to mainstream healthcare services [12-14]

Moreover, almost all health facilities lack basic physical infrastructure accessible to people with disabilities. The reported experience of women with disabilities as inaccessible facilities, poor access to maternal and reproductive health information, negative attitude towards disability, and a lack of understanding on the part of health workers that people with disabilities are sexually active [15].

Women with physical disabilities experience multiple social, economic, and health disparities. In addition to experience high rates of poverty and low access to education, employment, and other community opportunities and resources. Also, important barriers within the healthcare system, including physically inaccessible facilities, lack of needed adaptive equipment and gaps in patient-provider communication, as well as higher-than-expected levels of medical mistrust. Particular access gaps have been noted in women's healthcare, and women with disabilities are to receive consistent routine reproductive healthcare and gynecological cancer screenings. Also, substantially more likely to deliver by cesarean, with the medical necessity of cesarean delivery not always clear [16-18].

Women with disabilities are In addition, women with disabilities are more likely to experience pregnancy complications, such as gestational diabetes and preeclampsia. The reasons for these adverse outcomes among women with disabilities are not fully understood. They may be due in part to underlying medical conditions contributing to a disability or to aspects of the life circumstances of women with disabilities (e.g., accumulated stress associated with marginalization) that are difficult to fully control for in regression models [19].

Prior studies of women with intellectual and developmental disabilities (IDD) have found that these groups are less likely to receive timely and adequate prenatal care compared with women without disabilities. However, little is known about how patterns of prenatal care differ by functional category of disability (physical, vision, hearing, and intellectual/developmental) in comparison with women without disabilities. A better understanding of prenatal care utilization patterns among subgroups of women with different types of disabilities is needed to effectively target interventions to improve care for these women [15, 20].

Significance of the study

Maternal mortality remains high in low-income countries, globally, 73% of all maternal deaths occur due to direct obstetric causes during pregnancy and childbirth, which could potentially be prevented if the women had access to basic healthcare services [2]. Studies consistently show high maternal mortality, poor health, and wellbeing among excluded and vulnerable populations including women with disabilities compared to their non-disabled counterparts [1;12;21] studies confirmed that the maternity services among disabled women in the UK with some differences were evident, with disabled women using the services more intensively and some gaps in provision were highlighted where needs could be better addressed. For the Egyptian population of persons with disabilities generally, an assessment conducted by the World Health Organization (WHO), UNICEF, and local civil society organizations in 2011 estimated that the percentage of Egyptians with disabilities was approximately 11 percent or 8.5 percent. [22] As described in the 2011 World Report on Disability, the estimated global disability prevalence is 15%. While disaggregated data by type of disability are harder to come by, A WHO household survey from 2007 indicates a 6% prevalence of hearing loss among the population [23]. However, there is not enough data or studies about pregnant women with disabilities done in Egypt. So, this study aims to

Aim of the study:

The main aim of the present study is to:

- Assess the experiences and satisfaction of intellectually and physically disabled pregnant women with provided prenatal care.
- More specifically the study was looked at:
- Describe the provided antenatal care for physically and intellectually disabled pregnant women during pregnancy
- Assess their level of satisfaction with the provided antenatal care.
- Assess the challenges faced by the disabled women during the antenatal follow-up
- Compare the care experiences and satisfaction between physically and intellectually disabled women
- Examine the association between physically and intellectually disabled pregnant women demographic background and their experiences and satisfaction with antenatal care.

MATERIAL AND METHODS

Study design

A descriptive exploratory correlational research design was used to achieve the current study objectives

Participants and Settings

A convenient sampling technique was used to recruit 60 disabled pregnant women from Maternal & Child Care Centers (MCH), affiliated with the Egyptian Ministry of Health, during a home visit with nurses worked in MCH and Obstetric outpatient's clinic located at Woman health Hospital affiliated to Asyut University, Egypt. Data collection was done during Fall 2019 starting in September and end in February 2020 because of the appearance of Covid 19 pandemics.

Sample size calculation:

Raosoft sample size calculation was used to calculate the sample size with a margin error of 5%, confidence and interval of 95%, hence minimum sample size is 53 disabled pregnant women out of total 60 came to Maternal & Child Care Centers, home visit and outpatient of Woman Health Hospital affiliated to Asyut University.

Tool & Data collection

Semi-structured interviews with 60 participants supporting parents with impairments were conducted in maternal-child health centers.

The current study consisted of a multi-section tool which included 3 parts as the followings:

1. Demographic characteristics were divided into 2 parts:

The first part enquired the participants about their age, type of disabilities, level of education, residence area and number of previous pregnancy, and number of children

The second part asked about the follow-up data of the current pregnancy including gestational age, date of visit booking, place, and person the participants selected to provide her birth outcome.

Part (2) included Maternity Services Survey. The study was used the Maternity Services Survey. This survey about the experience of the care received maternity services. It's a structured 12-page questionnaire, based on that used in previous national user surveys in UK, England 2018. This original survey has consisted of (31 questions) related to pregnancy, (17 questions) labor and birth, and (21 questions) on the postnatal period. To achieve the objectives of the current study the researchers decided

to use the questionnaires related to the experience and satisfaction of pregnant women (physically and intellectually) during pregnancy which includes (31 questions) on pregnancy [24].

Part (3) Overall satisfaction regarding health services during pregnancy with disabilities: this part has consisted of 2 questions one was rate on A Likert scale of 8 responses from I have a poor response (0) to have a very good response (7). The other question asked the participants about their feeling of being treated with respect and dignity by their health care providers in the last 12 months with 3 responses of Yes always, yes, sometimes, and No.

Reliability and validity of the questionnaire

The instrument was translated into Arabic language and back-translated into the English language. Back translation is aimed at verifying whether the translation covers all aspects of the original English version of the questionnaire or not. Then to ensure the face validity and reliability of the final translated Arabic version of the questionnaire was evaluated by a panel of experts who were selected based on their qualifications and experience in nursing research and education. Then, the tools were piloted and tested by 10 % about (6) Participants to identify ambiguities in questions, the time required for completing the questionnaire, and any difficulties that might be encountered by the participants in reading or understanding the questionnaire after receiving the official approval to conduct the study. The correlation coefficient was tested through a pilot study on the first 6 cases of participants who were included in the study participants due to a limited number of study subjects. Reliability coefficient retest was calculated, and the analysis was done by using Cronbach alpha and reported to as the following: Questionnaires related to pregnancy were reported to be 0.84, and satisfaction questions were reported 0.91 which is considered a higher level of reliability of the participants' responses.

Data Collection Procedure

Once the proposed study was approved by the research unit in the faculty of nursing, Assiut University, a letter was submitted to the managers of the selected settings for arrangement and permission to start data collection. The Data were collected from October 2020 to Dec 2020. All disabled pregnant women were asked to sign the informed consent form before filling the questionnaires. Face to face interview was used with all participants to fill the questionnaires, tools and others were filled by the researcher as a face-to-face interview. The researcher visited the MCH two days per week to fill about 1-2 sheets each day.

Data Analysis and Management

The data were coded and analyzed using SPSS's latest version. Data were presented using descriptive statistics for discrete variables in the form of frequencies and percentages, and for interval and ratio variables in the form of means and standard deviations. All significant variables were entered into the multivariate model using the multinomial logistics regression to estimate the adjusted odds ratio for significant variables correlated with the outcome variable of diagnosis. All statistical tests were considered significant at the level of 0.05 or less. The univariate analysis was used to answer the research questions regarding the services provided to the pregnant women during pregnancy, the differences were analyzed, and the significance level was tested at $p < 0.01$.

Ethical consideration

The study was submitted for official approval from the research unit at the Faculty of nursing Assiut University. Then the approval letter was submitted to the Manager of Maternal childcare centers, and Woman's health hospital for approval. After that, study subjects were approached for explaining the purposes and the procedure of the study. Subjects informed that their participation in the study is voluntary and they can withdraw without any penalty at any time. They were assured that their answers were kept anonymous during the study and that their data kept confidential. Additionally, at the time of data collection, the researchers ensured anonymity, confidentiality, and privacy of the participants' responses throughout the research study.

RESULTS

Table (1) Distribution of studied participants according to their Demographic data (N=60)

Demographic characteristics	N %
Age (Mean (SD))	33.28(8.12)
Religion	
Muslim	46 76.7
Christian	14 23.3
Education	
Read & write	16 26.7
Primary level	34 56.7
Secondary level	10 16.7
University or postgraduate	
Residence	
rural	36 60.0
Urban	24 40.0
Previous pregnancy (Mean (SD))	1.41(0.49)
Yes	35 58.3
No	25 41.7
Previous babies	
Mean (SD)	1.80(0.85)
none	29 48.3
1-2	14 23.3
3 or more	17 28.3
Ability to carry out day-to-day activities:	
Yes, a lot	15 25.0
Yes little	28 46.7
No	17 28.3

Table 1 shows that the mean (SD) age is 33.28(8.12), the majority 76.7% are Muslims, 56.7% are a secondary level of education, and two-thirds (60%) are living in rural areas. As regards having previous pregnancy, 58.3% indicated a yes response compared with 41.7 % did not have, Mean (SD) 1.41± 0.49. While nearly half (48.3%) did not have children before the current pregnancy, 46.7% indicated “Yes little” for the ability to do the daily activities compared with 25% “yes a lot “and 28.3 % were not able to do the daily activities.

Figure 1. The participants’ distribution according to the type of disability

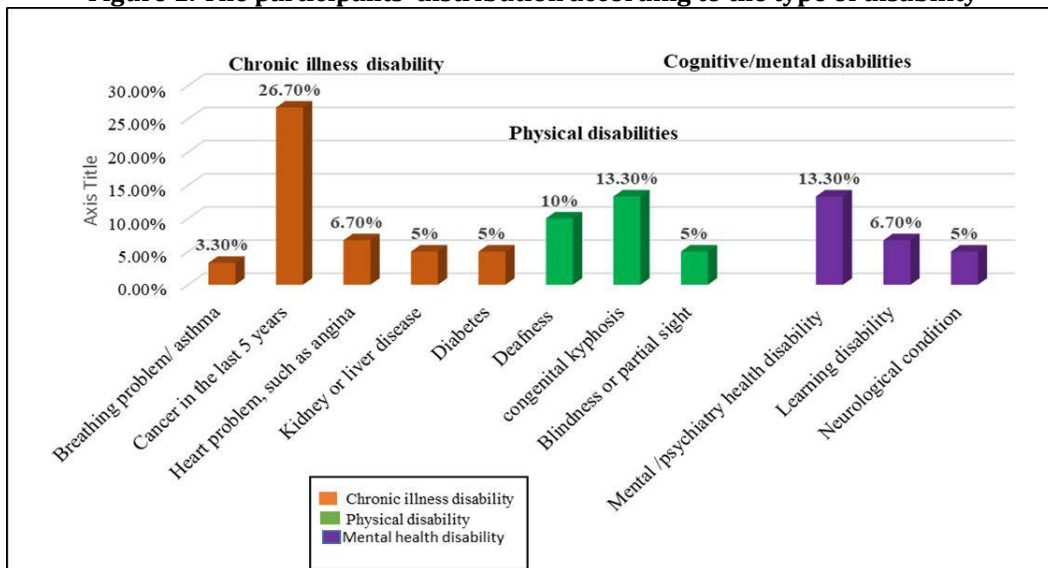


Figure 1 illustrates that physical disabilities reported 26.70% of chronic illnesses such as diabetes, cancer, heart disease, kidney, and liver problems while 28.30% were distributed between congenital kyphosis, blindness, and deafness problems. On the other hand, 25% of the studied sample were distributed as

cognitive and mental disabilities such as psychiatric illness was 13.30%, learning disabilities 6.70%, and only 5% diagnosed with neurological disorders.

Table 2. Distribution of studied participants according to their Pregnancy follow-up data(N=60)

Pregnancy follow-up data	Mean (SD)	N	%
First health professional			
GP/family doctor		39	65.0
Midwife		21	35.0
Gestational weeks at 1st visit health profession			
6 or fewer weeks		42	70.0
7- 12 weeks		7	11.7
More than 13 weeks		8	13.3
Don't know/ can't remember		3	5.0
Time of booking visit			
10 or fewer weeks		44	73.3
11-12 weeks		3	5.0
> 12 weeks		10	16.7
Don't remember		3	5.0
Choices regarding labor setting			
Hospital	1.22(0.54)	39	65.0
Midwife		15	25.0
Consultant		2	3.3
Not offered		4	6.7
Choices of health care provider during labor			
Midwife		18	30.0
Consultant		34	56.7
Home		7	11.7
No plan		1	1.7

Table 2 shows the more than two-thirds of 65% of the participants were following up with general practitioners'/family doctors and 70% were starting the first visit when the gestational age was 6 weeks or less. While 73.3% were looking for a visit when they were 10 weeks or less. The choice of labor setting and health care providers during labor 65% preferred the delivery in the hospital and 56% preferred the consultant as a health professional to be present during labor followed by 30% selected midwives and 11.7% desired home delivery and 1.7% reported no plan.

Table 3. Participant's experiences regarding health care providers during pregnancy (N=60)

Experience items	Yes		Yes, to somewhat		No		Do not know/ Could not able	
	N	%	N	%	N	%	N	%
Get enough information from the midwife/doctor	27	45.0	13	21.7	18	30.0	2	3.3
At antenatal checks-ups did you see the same physician /nurse	39	65.0	15	25.0	2	3.3	4	6.7
During antenatal do have enough time to ask questions	28	46.7	20	33.3	8	13.3	4	6.7
Did your nurses listen to you	15	25.0	36	60.0	3	5.0	6	10.0
Did your midwife ask you about your mental health?	7	11.7	29	48.3	12	20.0	12	20.0
Antenatal classes provided by the health center/hospital?	20	33.3	5	8.3	33	55.0	2	3.3
Did you find these classes useful?	6	10.0	17	28.3	31	51.7	6	10.0
Did you have a telephone number for a member of the midwifery team	24	40.0	0	0	30	50.0	6	10.0
If you contacted a midwifery team, were you given the help you needed?	22	36.7	5	8.3	14	23.3	19	31.7
Were you involved in decisions about your care?	22	36.7	20	33.3	2	3.3	16	26.7
Staff treating introduce themselves	14	23.3	16	26.7	12	20.0	18	30.0

Table 3 shows about two-fifth 45% indicated that they got enough information from either a midwife or doctor, 46.7% indicated that they have enough time to ask questions and 65% reported that they met with the same physician /nurse during the antenatal checkup. On the other hand, 60%,48.3 % indicated that nurses somehow listening to them and asking about their mental health, respectively. As regards the courses of antenatal care and its usefulness, an equal 33.3% number of the participant indicated yes and No, and 50% Did not have a telephone number for a member of the midwifery team. An equal number 36.7 % indicated that they got needed help from the midwife and the been involved in the decision regarding their care while 30% reported that the staff did not introduce themselves when they started the care procedures.

**Table 4. Participants distribution according to Mental disability care services during pregnancy
Total N= 60**

Services challenges	N	%
How long have you been in contact with mental health services?		
yes	19	31.7
no	32	53.3
not sure	9	15.0
Do you know how to contact this person if you have any concerns about your care?		
yes	15	25.0
no	38	63.3
not sure	7	11.7
Is the person in charge of organizing your care and services?		
A Psychotherapist/counselor	13	21.7
A social worker	16	26.7
A psychiatrist	15	25.0
A psychiatrist nurses	7	11.7
Do not know	9	15.0
Medicines for your mental health		
yes	41	68.3
no	19	31.7
In the last 12 months, have you been prescribed any new medicines for your mental health needs?		
yes	28	46.7
no	32	53.3
last time you had a new medicine prescribed for your mental health needs		
Yes definitely	24	40.0
Yes, to some extent	19	31.7
no	14	23.3
I was not given any info	3	5.0

Table 4 shows that more than half 53.3 % of the participants did not have contact with mental health services and 63.3% reported that they do not know how they can contact if they have any emotional concern. Concerning the person who caring with their mental and emotional health, 26.7 % indicated social worker, followed by 25% was a psychiatrist,21.7 % reported a psychotherapist /counselor, while only 11.7% were seen by a psychiatric nurse and 15% indicated they did not have any information about these services. More than two-thirds 68.3% of the studied participants were receiving medications compared with 46.7% were prescribed medication at last 12 months and 40% reported their needs for a new medicine to be prescribed for their mental health needs.

Figure 2 exhibits experience of dignity and antenatal care, more than half of the sample 51.7 % were moderately satisfied compared with only 7.14% were highly satisfied. While 65% reported “yes sometimes’ ’on the satisfaction with dignity during their antenatal check-ups, compared with only 11.70% reported “Yes always” and 23.30 % had no dignity experiences during their pregnancy.

Figure 2. Overall participants' satisfaction and dignity experience regarding antenatal care

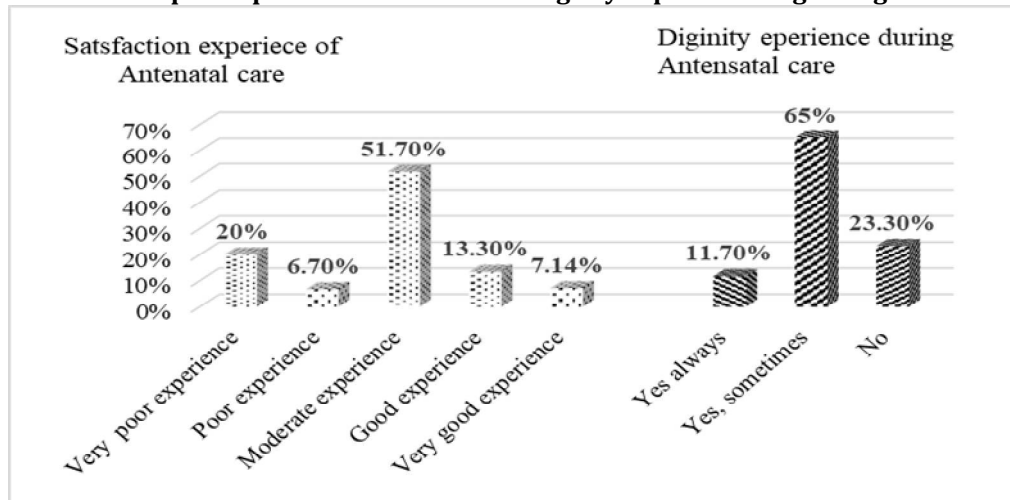


Table 5a Correlations between disabilities and antenatal checkup data

Correlations		Physical, disabilities	Mental, intellectual	residence
how many weeks pregnant health professional	Sum of Squares and Cross-products	-7.172	-9.103	.897
	Covariance	-.126	-.160	.016
	N	60	60	60
get enough information from either a midwife or doctor	Pearson Correlation	-.526	-.021	.017
	Sig. (2-tailed)	.000**	.878	.897
	Sum of Squares and Cross-products	-11.879	-.828	.172
	Covariance	-.208-	-.015	.003
N	60	60	60	
A. antenatal checks-ups A1. Yes A2. No A3. I did not see a midwife A4 Do not know / cannot remember	Pearson Correlation	-.325	-.272	-.114
	Sig. (2-tailed)	.013	.039	.393
	Sum of Squares and Cross-products	-6.724	-10.034	-1.034
	Covariance	-.118	-.176	-.018
N	60	60	60	
B. Antenatal check-ups /health care providers did your midwives appear to be aware of your medical history? were you given enough time to ask questions or discuss your pregnancy? did your midwives listen to you? did your midwife ask you about your mental health?	Pearson Correlation	-.043	-.207	-.141
	Sig. (2-tailed)	.747	.119	.291
	Sum of Squares and Cross-products	-.845	-7.207	-1.207
	Covariance	-.015	-.126	-.021
N	60	60	60	
During your antenatal check-ups, were you given enough time to ask questions	Pearson Correlation	-.474	-.269	-.167
	Sig. (2-tailed)	.000**	.041	.211
	Sum of Squares and Cross-products	-10.534	-10.621	-1.621

** Statistically significant at P. value< 0.01

Table 5a shows that there is no significant difference between types of disabilities and antenatal checkup among study participants except for the type of disabilities and service of getting enough information from either a midwife or a physician at $P < 0.001$

Table 5.b. illustrates that there is no significant correlation between all demographic variables and antenatal care except for types of disabilities with the item "During your antenatal check-ups, where you are given enough time to ask questions and gestational age with "antenatal checkup" at $P < 0.001$ and $P < 0.008$ respectively.

Table 5b Correlations between sociodemographic and antenatal services

		antenatal check-ups	During your antenatal check-ups, were you given enough time to ask questions
	N	60	60
physical or mental health conditions, disabilities, or illnesses	Pearson Correlation	-.043-	-.474-
	Sig. (2-tailed)	.747	.0001**
	Sum of Squares and Cross-products	-.845-	-10.534-
	Covariance	-.015-	-.185-
ability to carry out day-to-day activities	Pearson Correlation	-.207-	-.269-
	Sig. (2-tailed)	.119	.041
	Sum of Squares and Cross-products	-7.207-	-10.621-
	Covariance	-.126-	-.186-
residence	Pearson Correlation	-.141-	-.167-
	Sig. (2-tailed)	.291	.211
	Sum of Squares and Cross-products	-1.207-	-1.621-
	Covariance	-.021-	-.028-
Religion	Pearson Correlation	.059*	-.115-
	Sig. (2-tailed)	.658	.390
	Sum of Squares and Cross-products	1.345	-2.966-
	Covariance	.024	-.052-
previous pregnancy	Pearson Correlation	-.036-	.226
	Sig. (2-tailed)	.786	.088
	Sum of Squares and Cross-products	-1.793-	12.621
	Covariance	-.031-	.221
how many weeks pregnant health professional	Pearson Correlation	.343*	.557
	Sig. (2-tailed)	.008*	.0001**

*Statistically significant at P. value < 0.05 ** Statistically significant at P. value < 0.01

Table (6) distribution of the studied group according to the challenges facing them during their pregnancy(N=60)

Challenges	Yes, definitely.		Yes, to some extent.		No, but I wanted to be.		I did not involve in making decisions.		Do not know.	
	N	%	N	%	N	%	N	%	N	%
Have you agreed with someone from physical mental health services care you will receive?	9	15.0	23	38.3	14	23.3	0	0.0	14	23.3
Does this agreement on what care you will receive take your circumstances into account?	10	16.7	33	55.0	33	55.0	0	0.0	4	6.7
Did you feel the decisions were made together by you & the person you saw during this discussion?	5	8.3	10	16.7	32	53.3	9	15.0	4	6.7
Were you involved as much as you wanted to be in decisions about which medicines you receive?	25	41.7	7	11.7	5	8.3	5	8.3	15	25.0
last 12 months do you feel you have seen mental health services	14	23.3	33	55.0	4	6.7	7	11.7	2	3.3
Did the person/people you saw listen carefully to you	20	33.3	28	46.7	9	15.0	4	6.7	2	3.3
Were you given enough time to discuss your needs and treatment	24	40.0	20	33.3	9	15.0	5	8.3	2	3.3
Did the person you saw understand how your mental health needs affect other areas of your life?	16	26.7	30	50.0	8	13.3	2	3.3	4	6.7

Table 6 shows that more than half 55% reported that the agreement of care did not consider the personal circumstances into accounts followed by 53.3% faced with a challenge of not being involved in the decision regarding their care. While 41.7 % reported that they need to be involved in deciding the medicines they were received and 40% and 33.3% were indicated the necessity of giving enough time to discuss their needs and treatment and the person who provide the care should listen carefully to them respectively. As regard to mental health services, 55 % and 50 % of the studied participants indicated that to some extent they have a big challenge of inability be seen by mental health services during the last 12 months and the person who saw them can understand how their mental health needs affect other areas of their life respectively.

Table 7. Participants’ disabilities in association to their satisfaction and dignity of antenatal care services.

variables	Woman’s experience with antenatal services							
	very poor experience	poor experience	moderate experience	good experience	very good experience	Total	Chi-Square	P. value
	n %	n %	n %	n %	n %			
Physical/ sensory /illness disabilities	10 22.2	2 4.4	26 57.8	6 13.3	1 2.2	45	17.17	0.016
Intellectual/mental disabilities,	2 13.3	2 13.3	11 73.3	0 0	0 0	15		
Total	12	4	37	6	1	60		
Woman's satisfaction with dignity during care								
Participants’ disabilities	Yes always n %	Yes, sometimes n %	No n %	Total n %	Chi-Square	P. value		
Physical/ sensory /illness disabilities	7 15.6	29 64.4	9 20	45 75	3.199	0.202		
Intellectual/mental disabilities	0 0	10 66.7	5 33.3	15 25				
Total	7	39	14	60 100				

Table 7 shows that there is a highly significant association between type of disabilities and satisfaction with antenatal care provided during pregnancy at $P<0.001$. However, there is no significant association between participants’ disabilities neither intellectual nor physical with their feeling of being respected and dignity maintained at $P<0.202$.

DISCUSSION

Antenatal care for physically and intellectually disabled pregnant women

The study findings reported different types of disabilities among Egyptian pregnant women and their experiences and challenges either toward the care services or care providers during antenatal care. The current study reported that more than one-fourth of participants have physical disabilities such as diabetes, cancer, heart disease, kidney, and liver problems. Also, more than one-fourth have congenital kyphosis, blindness, and deafness problems. One-fourth have cognitive and mental disabilities such as psychiatric illness learning disabilities and the least were diagnosed with neurological disorders. The ability to do the daily activities during pregnancy among women with disabilities revealed that about three-quarters were not able to do the daily activities. Likewise, Long-Bellil, et al (2017) [25] reported that the pregnancy affected the activities of women with disabilities and increase their need for more assistance with daily activities.

According to the United Nations Development Programme (UNDP) [26], approximately 785 million (15.6%) of all individuals 15 years and over have a disability [27]. UNDP estimates that 80% of these people live in developing countries [28] with 65% to 70% being women [29]. According to WHO estimates, there are one million blind people and three million visually impaired people in Egypt. Even though the United Nations Convention on the Rights of People with Disabilities (CRPD) identifies special rights for people with disabilities when it comes to reproductive activity [28] efforts are being made to enforce these rights in developing countries, including Egypt [28].

For the antenatal follow-up, more than two-thirds of the participants were following up with general practitioners'/family doctors and were starting the first visit when the gestational age was 6 weeks or less and booking for a visit when they were 10 weeks or less. Controversy, a study by Redshaw, et al

(2013) [22] reported that Whole, women with disabilities were keen to access healthcare early on in their pregnancy and to have more antenatal checks than other women. This difference may be related to the advanced level of facilities to access the antenatal services for disabled women in England as a developed country.

The choice of labor setting and health care providers during labors, about two-thirds preferred the delivery in the hospital and more than half preferred the consultant as a health professional to be present during labor followed by almost one-third selected midwives and about ten percentage desired home delivery and less than two percentage reported no plan. This finding matching with the Redshaw, et al (2013) [22] study which reported the most of disabilities preferred to deliver in a hospital, and those who were physically disabled had less choice about the place of birth.

Participant's experiences regarding health care providers during pregnancy.

Two-fifth indicated that they got enough information from either a midwife or doctor, enough time to ask questions and two-thirds reported that they met with the same physician /nurse during antenatal checkup and nurses somehow listening to them. Almost fifty percentage indicated that nurses were asking about their mental health. One-third of the participants indicated courses of antenatal care were useful, and the half did not have a telephone number for a member of the midwifery team. More than one-third indicated that they got needed help from the midwife and the been involved in the decision. Almost one-third reported that the staff did not introduce themselves when they started the care procedures. These findings assured the importance of health providers-women with disability relationship for many benefits such as care, information, or support.

In line with previous studies [18; 30; 31] which reported that Patient-provider relationships are essential to maternal care and showed mothers' preferences for well listen to providers which enhance relationships.

The World Health Organization provided a guideline for better health care for individuals with disabilities and recommended that the "improvement of health service provider attitudes, knowledge, and skills, education needs to cover appropriate disability information, involving people with disabilities as providers of education and training can improve knowledge and attitudes. In addition, the encouragement of individuals with disabilities to well manage their health across self-management classes, peer assistance, and info has been very effective in cost-effective care [23].

Regarding the mental disability services, more than half of the participants did not have contact with mental health services and about two-thirds reported that they do not know how they can contact if they have any emotional concern. One-fourth or more reported that the person who cares about their mental and emotional health was a social worker, a psychiatrist a psychotherapist /counselor, while only lesser were seen by a psychiatric nurse and did not have any information about these services. It is well-known that high-reliability organizations that are based on evidence-based practice and have cultures of safety provide nurses with favorable working conditions as well as are committed to delivering better patient care [32].

Currently, this is not practiced in research settings as there are no educational institutions that provide special psychiatric nursing certificates Registered Nurse (RN) and qualifications in the country. Therefore, care providers are neither certified nor qualified to work with pregnant women having emotional and psychological problems, especially in emergencies. Women with mental disabilities have expressed concerns about the healthcare workforce's insufficient knowledge of the psychological aspect of pregnancy, creating substantial barriers to communication [33]. Additionally, pregnant mothers with disabilities have voiced frustration with doctors and nurses' inability to understand explanations about their pregnancy.

More than two-thirds of participants were receiving medications compared with more than two-fifth were prescribed medication at last 12 months and two-fifth reported their needs for a new medicine to be prescribed for their mental health needs. These findings related to insufficient services which care of mental services to be integrated with the antenatal services but based on fragmented services like referral services which may interfere with the disabled desire to receive all care in one convenient place. This is corresponding with previous studies [7; 20] reported that proper equipment and the attitudes of health care providers towards disability are actual concerns for disabled women that were not usually addressed, and Care may be delivered by various providers and not cut up therefore that women may get split care that is hard to access.

The challenges of the disabled women during the antenatal follow-up

More than half reported that the agreement of care did not consider the personal circumstances into accounts followed and faced the challenge of not being involved in the decision regarding their care. While about two-fifth reported that they need to be involved in making a decision regarding the

medicines they were received and giving enough time to discuss their needs and treatment and one-third indicated the necessity of receiving the care and provider should listen carefully to them. This finding is in line with the qualitative study [34] which reported that there are inadequate arrangements of treatment methods in the care of mothers with disabilities due to inattentiveness in care. In addition to a greater need for privacy and the time for caring and listening to pregnant women with disabilities is very critical. These findings might indicate that the healthcare of women with disabilities is expected to be underprivileged regarding participation in the health system.

Moreover, United Nations stated a Convention on the Rights of Individuals with Disabilities “Article 23” obligate themselves to ‘take effective and appropriate measures to eliminate discrimination against people with disabilities in all matters concerning marriage, family, parenthood and relationships, on an equal basis with others’ [35].

As regards mental health services, more than half indicated a big challenge toward inability to be seen by mental health services during the last 12 months, and to the person who saw them can understand how their mental health needs affect other areas of their life. Shows that there is no significant difference between types of disabilities and antenatal checkups among study participants except for the type of disabilities and service of getting enough information from either a midwife or a physician at $P < 0.001$.

In Redshaw, et al (2013) [22] study, Women with more than one identified disability or mental health problem were least likely to report a challenge of pregnancy and birth. Based on the study conducted by Akasreku, Habib, and Ankomah(2018), it is concluded that there is a problem with the public perception that mentally disabled women cannot have the experience of motherhood safely and are capable of passing their disabilities onto an unborn child. The Egyptian disabled women can access many services, but it is imperative that service providers and the general public understand what can be done to support them [36- 38].

Furthermore, previous studies [39-42] reported challenges of acceptance in communities, they also face this challenge in health facilities. Also, there is evidence displayed that health workers are sometimes inconsiderate of the needs of women with disabilities [43]. Moreover, a systematic review [44] confirmed that women with mental health disabilities are more eager about the assistance and communications they received from the care provider during their pregnancy. Therefore, the training programs are very critical to improve care providers' communication skills.

level of satisfaction of the provided antenatal care.

Approximately three-quarters (sometimes two-thirds, sometimes less than one-fifth) of women with physical/sensory/illness disabilities expressed satisfaction with the dignity experienced during receiving antenatal care. Despite this, two-thirds of women with mental disabilities said they were sometimes satisfied with their antenatal care. The finding implies that almost all customers are satisfied. In a comparison of physical and intellectual disabilities, two-thirds and almost three-quarters of both groups had moderate antenatal care satisfaction, respectively, with a statistically significant difference of $p < 0.016$. The study concurs with previous studies [18; 44; 45] reporting high satisfaction with prenatal care in women with disabilities.

The results indicate that the satisfaction of participants with having been respected and having their dignity respected is not significantly associated with their disability, intellectual or physical, at $P < 0.202$. Flowing from this, Tanabe et al. (2015) [46] found that women with disabilities found service providers disrespectful, which could adversely affect their participation in maternal health services in this setting.

Strength and Limitation of the study:

This study was conducted through direct interviewing of the women regarding their disability, which is more accurate than self-reporting. Despite this, the number of participants was not large enough to detect more imperceptible differences among different types of disabilities but still provided enough insight into the challenges that disabled pregnant women face during pregnancy.

CONCLUSION

The study sheds light on a critical issue concerning pregnant women with physical, intellectual, and mental disabilities. Based on the findings, antenatal services must be made better accessible, including specific disability services. Health professionals, nurses, and midwives' performance are well, but they need more training programs in disability management. The majority of respondents reported being unable to obtain mental health services within the past 12 months and to have the service provider understand how their mental health condition affects other areas of their lives. There is no statistically significant difference between types of disabilities and antenatal checkups among study participants except for the type of disability and getting enough information from a midwife or physician $P < 0.001$. Additionally, the study indicated a moderate level of satisfaction among studied participants (physically

and mentally) with antenatal care received in a dignified manner, but there is room for improvement in future research.

RECOMMENDATION/ IMPLICATION OF THE STUDY

- The maternity care of disabled women is critical for further large, surveyed research focusing on the women's perspectives and needs during pregnancy, childbirth, and postnatal care services.
- The maternal services facilities should equip with more infrastructure to facilitate the services for all types of disabilities in one place.
- Special training and certification for psychiatric nurses or liaison psychiatric nurses should be conducted to equip them with necessary communication and psychoeducation delivery skills.
- In order to drive away disability stereotypes throughout society, government institutions like the Ministry of Health, disability advocacy organizations, and others need to raise public awareness about the rights of women living with mental and physical disabilities.
- Also, non-governmental organizations and government institutions should encourage efforts at the local and national levels to promote sexual and reproductive health measures and rights, particularly for women living with disabilities.
- To improve accessibility for people with disabilities, healthcare institutions should develop information-based materials including types of resources, place, and accessibility mode.
- Research on providers' perceptions and attitudes toward pregnant disabled women is needed in the future.

COMPETING INTERESTS

The authors declare they have no competing interests.

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The authors listed have all contributed to this paper: HF and Akh, conceptualized the research idea; AK collected the data; HF carried out the statistical analyses; HF, Akh., AK contributed to interpretation of findings and drafted the final manuscript. All authors have read and approved the final manuscript

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