

*Original Article*

## Awareness of Married Female Adolescents Regarding Preconception Care - River Nile State – 2022

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### **Abstract**

**Background:** Adolescent pregnancy is a major health and socioeconomic problem faced worldwide, with distinctive medical and psychosocial complications for the mother, family and society. It demands specific attention to understand their problem and its causative factors. Adolescents' awareness and health lifestyle before pregnancy can influence both the fertility and the health of the mother and child. Preconception care is a curial part because it increases the chance of the couple's care of the mother's health, and it is an integral part of antenatal care because it has impending care for women and reducing risk of both the mother and the newborn. It promotes a healthy lifestyle and improves readiness for pregnancy. Besides, it is important to minimize fetal malformation. **Objective:** The present study aims to assess the awareness of married female adolescents regarding preconception care. It attempts to highlight the gap of female adolescents and child health systems at policy and management heights, and helping promote healthy behaviors. **Methods:** This was a community-based cross-sectional study which was carried out in River Nile state at Sidoon Town. It included (205) participants who were selected through simple random sampling technique. The data was collected using a standardized administered questionnaire and were analyzed by the Statistical Package of Social Sciences

(SPSS), version16 and were presented in the form of tables and figures. Logistic regression was used to identify possible predictors using 95% confidence interval and P-value of 0.05. **Results:** The study revealed that the overall awareness of preconception care was fair regarding important practices like taking folic acid, good healthy diet, controlling the medical problems before pregnancy and screening of hereditary diseases. There is statistically significant association between the level of awareness and husband relationship (P-value =0.005). The Chi square test of overall model shows that the overall logistic regression model is highly significant (P-value = 0.002). **Conclusion:** The findings of this study indicated that married female adolescents' awareness regarding preconception care is low. The study also revealed that the awareness simplified with educational status of female adolescents and the overall model shows that the overall logistic regression model is highly significant. **Recommendations:** Heath education in the study area is needed to increase their awareness level using the media and posters since most of the participants were from low educational backgrounds and were school dropouts.

**Key words:** Perception, awareness, Adolescent, preconception

## Introduction

Adolescence period is time of growth and development both physically, psychologically, socially, and intellectually<sup>(1)</sup>. The adolescents' right to live a healthy reproductive life and independence include physical, psychological and social preparation to get married and become parents at mature ages. PCC can reduce pregnancy adverse outcome (abortion, anemia during pregnancy, maternal mortality, and so on) and neonatal adverse outcomes (low birth weight, preterm baby, stillbirth, neonatal and child mortality, and so on)<sup>(2)</sup>. Pregnant adolescents need to increase utilization of preconception care, ante natal care ANC services, delivery care and postnatal care<sup>(3)</sup>.

Complications of adolescence pregnancy are the second cause of death among teenagers<sup>(4)</sup>. For this reason, adolescents 'lack of knowledge can affect the maternal and child healthcare and increase the morbidity and mortality rate (MMR) according to the World Health Organization report (WHO, 2013). To improve maternal and child health in the short and long terms, it is important to improve the behavior of individual and environmental factors contributing on improving maternal and

baby health condition. About 303,000 mothers died from pregnancy and childbirth-related causes and 99% of the deaths occurred in low and middle-income countries, with sub-Saharan Africa alone accounting for roughly 66%. Even though several factors could exist, lack of PCC can be one of the reasons for high maternal and child morbidity and mortality<sup>(5)</sup>.

When the first age of pregnancy is optimal and appropriate intervals between pregnancies are achieved, it is possible to prevent many complications of maternal and pregnancy outcomes. Delayed pregnancy ought to be important in adolescence period, due to the numerous adverse outcomes associated with adolescence pregnancy, including the increased risk of preterm birth, stillbirth, small-for-gestational age, neonatal, labor and delivery morbidity and mortality<sup>(6)</sup>. However, the evidence pertaining to prolonging inter-pregnancy intervals remains inconclusive. In a systematic review, Conde-Agudelo found that inter-pregnancy intervals of less than 6 months, compared to intervals of 18 to 23 months, were associated with increased risks of adverse effects. These included preterm birth, low birth weight, and small-for-

gestational age babies <sup>(7)</sup>. PPC period is beneficial for adolescence to prepare them physically and emotionally readiness when entering conception period <sup>(6)</sup>.

## Materials and methods

The present study has adopted community-based cross-sectional design, and it was conducted in River Nile state (Sidoon town). The targeted population was married female adolescents who were living in Sidoon town during the study period. The sample included 205 married female adolescents who were enrolled in the study, and they were selected by the simple random sampling technique. The data was collected by the researchers using a structured administered questionnaire to assess the level of awareness of married female

adolescents towards preconception care. The researcher used Likert scale to assess the level of awareness regarding preconception, which is divided into three levels: good, fair and poor <sup>(7)</sup>. The data was analyzed using the Statistical Package of Social Science (SPSS), version 16 and the level of significance was checked by chi-square test and the results were accepted when the p-value = 0.05 or less. After that, the results were presented in tables, cross-tabulations and figures. The logistic regression was used to identify possible predictors using 95% confidence interval. An ethical approval was obtained from the Institutional Review Board at Al Neelain University and Khartoum State. Letters of approval were obtained from the authorities of Al-Damer Locality; informed consent was obtained from each participant before the interview.

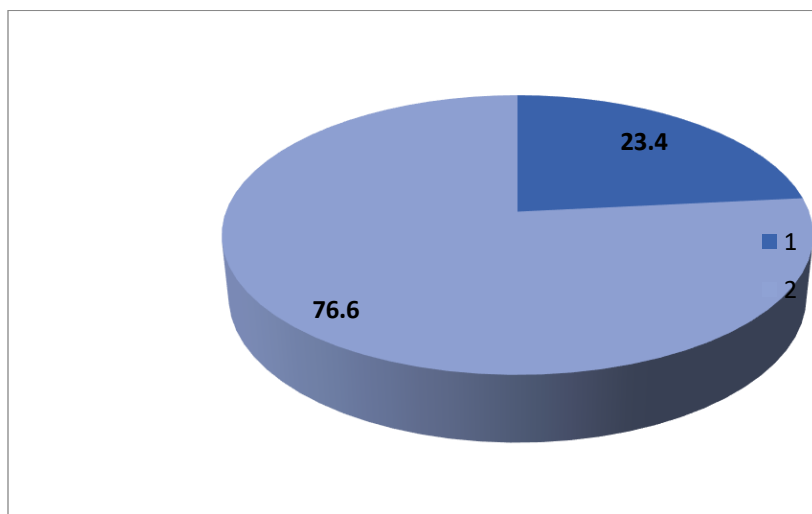
## Results

**Table [1]: Distribution of socio-demographic data of participants n=205**

Variable	Frequency	Percentage%
<b>Age</b>		
11-13	2	1.0
14-16years	43	21.0

17-19years	160	78.0
<b>Age of marriage</b>		
11-13 years	41	20.0%
14-16 years	121	59.0%
17-19 years	43	21.0%
<b>Age of first pregnancy</b>		
11-13 years	57	27.8
14-16years	116	56.6
17-19years	32	15.6
<b>Blood grouping</b>		
Know their blood group	74	2.9
Do not know their blood group	131	20.5
<b>Education level</b>		
Non-formal	34	16.6
Primary	109	53.2
Secondary	58	28.3
University	4	2.0
<b>Occupation</b>		
Housewives	193	94.1
Workers	7	3.4
Students	5	2.4
Total	205	100.0
<b>Socioeconomic status</b>		
Sufficient	171	83.4

Insufficient	34	16.6
<b>Marital chooses</b>		
Forced marriage	83	40.5
Granted right to choose	122	59.5
<b>Gravity</b>		
Primigravida	54	26.3
Multigravida	123	60.0
Nullgravid	28	13.7
<b>Parity</b>		
Null parous	42	20.5
Primiparous	76	37.1
Multiparous	87	42.4
<b>Mode of delivery</b>		
Vaginal	149	91.4
Cesarean section	14	8.6



**Figure (1): Distribution of participants who have heard about preconception care**

The above figure (pie-chart) show that only about quarter of the participants (23.4 %) enrolled in the study have heard about preconception care.

**Table (3): distribution of participants regarding awareness of preconception period**

No.	Items		Good	Fair	Poor
1	Counseling is important during preconception period	F	50	128	27
		%	24.4%	62.2%	13.2%
2	Taking folic acid during preconception period	F	75	108	22
		%	36.6%	52.7%	10.7%
3	Taking healthy and nutritive food during preconception period	F	45	109	51
		%	22.0%	53.2%	24.8%
4	Screening of genetic disease during preconception period	F	31	98	76
		%	15.1%	47.8%	37.1%
5	Avoiding medication that is contraindicated	F	59	102	44
		%	28.8%	49.8%	21.4%
6	Screening of sexual transmitted infections	F	52	77	76
		%	25.4%	37.7%	37.1%
7	Vaccination during preconception period	F	42	134	28
		%	21.6%	65.4%	13.7%
8	Control of chronic disease(s) during preconception period	F	59	103	43
		%	28.8%	50.2%	21.0%
9	Avoiding the exposure to radiation in environmental settings	F	34	88	83
		%	16.6%	42.9%	40.0%
10	Avoiding exposure to radiation in medical settings	F	29	68	61
		%	14.1%	33.2%	29.8%

11	Controlling weight during preconception period	F	27	78	100
		%	13.2%	38.0%	48.8%
12	Exercise in preconception care	F	25	84	96
		%	12.2%	40.0%	46.8%
13	Stopping passive smoking	F	47	86	72
		%	22.9%	42.0%	33.1%
14	Stopping active smoking	F	23	118	64
		%	11.2	57.6	31.2
15	Average	%	20.4	49.5	30.1

**Table 4: Univariate analysis of association between awareness and independent variables**

No	Variable	P-Value
1	Age	0.243
2	Age of marriage in preconception care	0.329
3	Education level	0.217
4	Occupation	0.035

**Table 5: multivariate analysis between levels of awareness and occupation**

Variable	Coefficients B	Wald	Df	P-Value	Odd Ratio Exp(B)	95% C.I.for OR	
						Lower	Upper
<b>Occupation</b>		6.069	2	.048			
<b>Worker</b>	.046	.002	1	.967	1.048	.114	9.628
<b>Student</b>	2.469	6.064	1	.014	11.805	1.655	84.209
<b>Constant</b>	-.914	7.907	1	.005	.401		

**Chi Square = 16.802 , P-Value = 0.002**





## Discussion

The present study revealed that almost quarters 23.4% of the participants in the present study were not aware of preconception care; this might be due to the low level of education among the participants in the sample, i.e. there were many 'school dropouts'. Regarding counseling, quarter 24.4% of the participants had good awareness; this could be due to the fact that many of the participants were counseled during pregnancy only. They had limited access to the health care facilities; and this may be due to the culture and customs of rural areas are different from those of urban areas. This result were lower than the results obtained by a study done in Sudan by Ahmed *et al* (2015) which found that 40% of the participants had been offered counseling about pregnancy<sup>(8)</sup>.

Only 36.6% of the participants in the present study had good knowledge about the benefits of preconception care and the importance of folic acid intake prior to conception. These results are higher than those of a study done by Delgado who found that only 32% of college students were aware of the importance of folic acid intake in the early fetal development<sup>(9)</sup>, and lower than those of a study done in Virginia

Commonwealth University which found that 64 % of women in the undergraduate psychology program had heard about folic acid<sup>(10)</sup>. This difference could be due to low level of education, school dropouts or to rural women depending on getting their information from their relatives, neighbors and media.

More than half (53.2%) of participants in the present study had fair knowledge regarding taking good healthy diet in the preconception period; this result could be attributed to the fact that women in rural areas believe that women need healthy diet more in postpartum period than in the preconception period, or due to the fact that not all women have financial or logistical access to a high-quality diet. As a matter of fact, it has been medically proven that a healthy environment and healthy diet during preconception period provide an opportunity to assist women in reducing major health risks and identifying key determinants of healthy pregnancy. Studies have shown that the aversion and prevention of exposure feasibility can play an important role in improving the health of women and their families<sup>(11)</sup>.

The overall results of this study regarding the awareness about preconception care

among adolescents showed that only 20.4% of the participant adolescents had good awareness, as compared to 76.0% and 43% in studies conducted on Mexican American women <sup>(12)</sup> and Nigerian women <sup>(12)</sup>, respectively, who had good knowledge. On the contrary, this specific result of the present study is higher than a result of a study done in Khartoum Teaching Hospital (2015) which revealed that only 7.7% of the participants had good knowledge <sup>(8)</sup>. The contradiction between the study and other studies could be due to several factors like: low level of education and school dropouts, cultural differences, lack of counseling and non-inclusion of the preconception care period in health system. The Chi-Square test of overall model shows that overall logistic regression model is highly significant (p-value = 0.002).

### **Conclusion:**

The findings of the present study indicated that married female adolescents' awareness regarding preconception care is low. Furthermore, the study indicated that their knowledge increased with the level of education of female adolescents. The overall model showed that the overall logistic regression model is highly significant (p-value = 0.002). Health education in the study

area is needed to increase their awareness level using the media and posters because most of them received low education and were school dropouts.

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### **Conflicts of interest**

There are no conflicts of interest to disclose. All authors declare that they have no conflicts of interest.

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