

# Knowledge, Attitude and Practice of female inmates at “Daar Al Taabat” prison towards Reproductive Health in 2021

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## Abstract

In this study, the authors illustrate knowledge, attitude and practice of female inmates in a Sudanese prison. In the findings below, it is illustrated that the participants (all of whom were women of childbearing age serving sentences during the data collection period) illustrated the following: most of the participants held a positive attitude towards reproductive health components mainly the safe motherhood. Additionally, the results showed that the practice of reproductive health was positive in most of our study participants. **Recommendations:** 1. Implementation of efforts that increase awareness through the utilization of communication methods (social media, television, etc.) 2. Promotion of positive practices in the prison through workshops and seminars to motivate. 3. Providing a primary healthcare clinic that offers basic reproductive health services to cover the needs of the female prisoners.

## Introduction:

A plethora of guidelines (approximately 13 in total) regarding imprisoned women’s reproductive healthcare are in place and have been for a while. Despite that attention, gaps within these guidelines continue to exist (1) and it is of the utmost importance that we address these. One of the aims of this study is to shed light on that issue and to see to it that awareness is raised amongst experts.

In 1987 the World Bank, in collaboration with WHO and UNFPA, sponsored a conference on safe motherhood in Nairobi, Kenya to help raise global awareness about the impact of maternal mortality and morbidity. The conference launched the Safe Motherhood Initiative (SMI), which issued an international call to action to reduce maternal mortality and morbidity by one half by the year 2000. It also led to the formation of an Inter-Agency Group (IAG) for Safe Motherhood, which has since been joined by UNICEF, UNDP, IPPF, and the Population Council. The SMI's target has subsequently been adopted by most developing countries. Under the Safe Motherhood Initiative, countries have developed programs to reduce maternal mortality and morbidity. The strategies adopted to make motherhood safe vary among countries and include:

- Provide family planning services.

- Provide post abortion care.
- Promoting antenatal care.
- Ensuring skilled assistance during childbirth.
- Improving essential obstetric care.

This research was an investigation of the knowledge, attitude, and practice of female prisoners in “DaarAltaebat” prison in Omdurman- Khartoum state between March and August of 2021 where the researchers investigated their hypotheses, those being, based on the study variables: educational attainment would result in increased knowledge about reproductive health amongst the study population, b) an association between younger participant age and a higher likelihood of a positive attitude (acceptance and tolerance) towards reproductive health manifesting, and c) the practice of reproductive health among the study population is significantly associated with the participant's age.

### **Research Methodology:**

This is descriptive/quantitative research. A questionnaire and a scale were used to collect the data.

30 female prisoners were randomly selected from the total number of the female prisoners who were of reproductive age in the location. The data of this study was collected in the following manner:

Data was collected through a constructed interview with the targeted sample. Following this, the obtained data was analyzed using Statistical Package for Social Sciences (SPSS).

### **Literature Review**

Health is defined by the world health organization (WHO) as ‘a state of complete physical, mental, and social well-being, and not merely the absence of disease or infirmity’ (2).

Reproductive Health, on the other hand, is defined as ‘A state of complete physical, mental, and social wellbeing and not merely the absence of disease or infirmity, in all matters related to the reproductive system and to its functions and process’ (3).

A 2015 study out of New York targeting over 2,000 female inmates reported three primary issues faced by female inmates, those being: i) unavailability of examination facilities, ii) lack of contraception and contraceptive tools, and iii) lack of/poor quality sanitary supplies (4). The paper indicated a clear and immediate need for action.

In Rikers Island Jail in 2015, Schonberg and colleagues (5) conducted a study in which they interviewed 32 female inmates. In that study, they reported that all participants indicated that they believe that reproductive healthcare services should be provided in the jail; additionally, the inmates held an overall negative opinion on the quality of healthcare services provided to them.

A 2019 study in the US (6) reported ‘constitutional jurisprudence governing incarcerated individuals does little to account for the unique medical needs of women in custody’. Further illustrating the issue at hand.

A 2022 study in Canada which investigated data collected between 1994 and 2020 (7), reported issues with access to contraception and prenatal needs of female inmates; so much so, that it seems as if the minimum legal requirements haven't been met.

A 2020 study from Canada reported significant probability of female inmates not receiving acceptable levels of antenatal care compared to women in the general population. This remained the case whether the inmate was in prison during the pregnancy or not (8). A very alarming finding!

### **Reproductive Health:**

Safe motherhood can only be achieved through providing quality health services to all who need it. These services could be provided at different levels of the community (9) and include, but are not limited to:

- Educating the community on safe motherhood and reproductive health.
- Prenatal care and counseling
- Skilled assistance during childbirth.
- Access to care for obstetric complications, including emergencies
- Postpartum care.
- Post-abortion care and safe services for the termination of pregnancy.

### **Child Health:**

A child is said to be healthy when they live in environments, communities, and families that see to it that they are provided with the chance to reach their developmental potential (10).

Published data from several countries in Asia and Africa by national CDD programs indicate a substantial overall decline in child mortality in the first decade of the 21<sup>st</sup> century. This is hypothesized to be due to, but not limited to (9):

- Improved management of cases
- Improving standards of living
- Increased immunization

### **Research Methodology:**

This is a descriptive cross-sectional prospective and institutional-based study.

### **Research Variables:**

**Independent variables:** Age, marital status, and level of education

**Dependent variables:** Knowledge: knowledge on components of reproductive health. Attitude towards reproductive health (acceptance). Practice: adherence to protocols and practices regarding reproductive health.

**Research population:** The population size of the prison was approximately 1500. 30 individuals were randomly chosen as mentioned above.

**Inclusion Criteria:**

All female inmates imprisoned in Daar Altaebat prison and serving sentences who are of reproductive age who were willing to participate in the study after they were informed.

**Exclusion Criteria:**

Non-females

Not serving a sentence during the time of the study

Not of reproductive age

Not willing to participate

Not serving in the prison

**Sampling technique:**

A simple random sampling method technique was chosen in this research. The sample was selected randomly from the available records provided by the administration of the prison. 30 female prisoners were selected randomly from the inmates for the study.

**Data collection tool and technique:**

Data was collected from participants through a constructed interview; where the researchers met the participants and filled the questionnaires with them.

**Data Analysis:**

All data was analyzed using SPSS v.26, descriptive frequency analysis was made for all variables, and the relationship between variables was analyzed according to chi-square test (p-value of less than 0.05 was considered significant).

**Results:**

**Table (1): Age distribution of participants**

Age Frequency				
	Frequency	Percent	Valid Percent	Cumulative

					Percent
Valid	< 20 years	2	6.7	6.7	86.7
	20-25 years	13	43.3	43.3	43.3
	26-30 years	8	26.7	26.7	70.0
	31-35 years	2	6.7	6.7	100.0
	35-40 years	2	6.7	6.7	93.3
	41-45 years	3	10.0	10.0	80.0
	Total	30	100.0	100.0	

Table 1 showed that most of the participants were aged between 20-25 years (43.3%). In summary, the table clearly illustrates that most of the sample (70%) were aged between 20 and 30 years. Regarding education, women with a primary education were mostly represented (50%) in our population (Table 2).

**Table (2): level of educational attainment amongst participants**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	I did not receive an education	11	36.7	36.7	86.7
	Primary school education	15	50.0	50.0	50.0
	Secondary school education	2	6.7	6.7	6.7
	University—level education or higher	2	6.7	6.7	6.7
	Total	30	100.0	100.0	100.0

**Table (3): Marital status of participants.**

Social status Frequency					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Married	18	60.0	60.0	60.0
	Single	7	23.3	23.3	83.3
	Widowed	3	10.0	10.0	93.3
	Divorced	2	6.7	6.7	100.0
	Total	30	100.0	100.0	

Table 3 illustrates that most (60%) of our participants were married.

**Table (4): Knowledge about reproductive health**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No, I don't know	19	63.3	63.3	63.3
	Yes, I know	11	36.7	36.7	36.7%
	Total	30	100.0	100.0	100.0%

When asking about knowledge of reproductive health, the researchers, in their questionnaire, constructed a series of basic health knowledge that they see all women of reproductive age must possess. These questions were explained during the interview to the participant using local terminologies. Following this, the participants were divided into one of two sets of data. The first was titled 'No, I don't know'; this reflected a knowledge score of under 45% of reproductive health. 63.3% of our participants fell into this category. The remainder 36.7% reported knowledge sufficient to place them into the 'Yes, I know' set of data. This is shown in Table (4). Table (5), on the other hand, illustrates knowledge of specific components of reproductive health.

**Table (5): Knowledge about components of reproductive health**

		Who know	Percent	Doesn't know	Percent
Valid	Safe motherhood	12	40.0	18	60.0
	The health of adolescent and youth	5	16.7	25	83.3
	Early detection of sexually transmitted diseases	4	13.3	26	86.7
	Family planning and FGM	2	6.7	28	93.9
	None	5	16.7	-	-
	Total	30	100.0	-	-

When asked about antenatal care, 23.3% of our participants reported no knowledge of its existence. This is shown in table (6).

**Table (6): participants Information about ANC health**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	it cares about the health of the mother and the child	16	53.3	53.3	53.3
	I do not know about ANC	7	23.3	23.3	76.7
	it cares about the health of the mother and child and prepares for a safe childbirth	6	20.0	20.0	96.7
	it cares about the health of the mother	1	3.3	3.3	100.0
	Total	30	100.0	100.0	

**Table (7): Showing information about sexually transmitted illnesses**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	IDK	12	40.0	40.0	40.0
	It is transmitted through sex only	8	26.7	26.7	66.7
	It can be transmitted from an infected mother to the child during childbirth	6	20.0	20.0	86.7
	Treatable and can be prevented	4	13.3	13.3	100.0
	Total	30	100.0	100.0	

\*IDK = I don't know

Table (7) showed that 40% of participants didn't know any information about the STIs. 26.7% said it was transmitted from the sex only. While 20% said it could be transmitted from an infected mother to her child during delivery, 13.3% said it was treatable and can be prevented.

**Table (8): Knowledge of contraception**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	natural regulation (lactation)	8	26.7	26.7	26.7
	None	7	23.3	23.3	50.0
	the contraceptive pill	5	16.7	16.7	66.7
	IUD and a subcutaneous capsule	5	16.7	16.7	83.3
	the contraceptive injection	4	13.3	13.3	96.7
	All	1	3.3	3.3	100.0
	Total	30	100.0	100.0	

Table (8) illustrates that 26.7% of our participants knew that natural lactation is a contraception method, 16.7% were familiar with contraceptive pills as well as devices, 13.3% knew about the injection, and only 3.3% knew all the possible contraceptive methods.

**Table 9: Taking supplements during pregnancy**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	22	73.3	73.3	73.3
	No	2	6.7	6.7	6.7
	Not applicable	6	20	20	100.0
	Total	30	100.0	100.0	

\* not applicable means this participant is not married and/or has never been pregnant before.

Table (9) showed that 73.3% of participants took supplements during pregnancy, and 6.7% didn't take, while 20% were not applicable to the question.

**Table (10): Showing the attitude towards Safe Motherhood Scale**

		Frequency	Percent	Valid Percent	Cumulative Percent
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Valid	Totally Agree	18	60.0	60.0	60.0
	Agree to some extent	4	13.3	13.3	73.3
	Neutral	7	23.3	23.3	96.7
	Don't know	1	3.3	3.3	100.0
	Total	30	100.0	100.0	

Totally agree scored 5/5.

Agree to some extent scored 4/5.

Neutral scored 3/5.

Disagree to some extent scored 2/5.

Totally disagree scored 1/5.

Don't know for whom didn't answer or scored 0/5.

The five statements of the safe motherhood are 1) antenatal care visits were important for the health of the mother and the baby, 2) Nutritional supplements were important during pregnancy, 3) It was important to complete the doses of the tetanus vaccine during pregnancy, 4) Childbirth in the hospital was better than giving birth at home, and 5) It was important to follow up the doctor after birth. Attitude is shown in Table (10).

### **Discussion:**

As the results of this study illustrated, most of the participants (70%) were in their reproductive age, 86.7% have little to no educational attainment,

In agreement with Schonberg's study (5), female prisoners are overall hesitant when it comes to healthcare services.

### **Conclusion:**

The research in Daar Altaebat prison focused on Knowledge, Attitude and Practice among prisoners in "Daar al Taebat" prison towards Reproductive Health. 30 prisoners were interviewed about the components of reproductive health. Results showed that the knowledge of the reproductive health among female prisoners in the prison was very poor. Regarding their attitude towards reproductive health in relation to their age and level of education, the results showed that most of the participants held positive attitude towards reproductive health components mainly the safe motherhood and child health

Additionally, the results showed that the practice of reproductive health was positive in most of our study participants.

### **Recommendations**

1. Implementation of efforts that increase awareness through the utilization of communication methods (social media, television, etc.)
2. Promotion of positive practices in the prison through workshops and seminars to motivate.
3. Providing a primary healthcare clinic that offers basic reproductive health services to cover the needs of the female prisoners.

### **Ethical Consideration:**

Ethical approval was granted by Ahfad University for Women. Written consent was taken from the participants involved in this research. The authors hereby declare no conflicts of interest.

### **References:**

1. Alirezaei S, Roudsari RL. Promoting health care for pregnant women in prison: A review of international guidelines. *Iran J Nurs Midwifery Res* [Internet]. 2020 Mar 1 [cited 2025 Jun 4];25(2):91–101. Available from: [https://www.researchgate.net/publication/338677314\\_Promoting\\_Health\\_Care\\_for\\_Pregnant\\_Women\\_in\\_Prison\\_A\\_Review\\_of\\_International\\_Guidelines](https://www.researchgate.net/publication/338677314_Promoting_Health_Care_for_Pregnant_Women_in_Prison_A_Review_of_International_Guidelines)
2. Constitution of the World Health Organization [Internet]. [cited 2025 Jun 1]. Available from: <https://www.who.int/about/governance/constitution>
3. Reproductive health [Internet]. [cited 2025 Jun 1]. Available from: <https://www.who.int/westernpacific/health-topics/reproductive-health>
4. Walsh K. Inadequate Access: Reforming Reproductive Health Care Policies for Women Incarcerated in New York State Correctional Facilities. [cited 2025 Jun 2]; Available from: [http://www.correctionalassociation.org/wp-content/uploads/2015/03/Reproductive-Injustice-FULL-REPORT-FINAL-2-11-15.pdf\[https://perma.cc/YPX8-DZ4E\]](http://www.correctionalassociation.org/wp-content/uploads/2015/03/Reproductive-Injustice-FULL-REPORT-FINAL-2-11-15.pdf[https://perma.cc/YPX8-DZ4E]).
5. Schonberg D, Bennett AH, Sufirin C, Karasz A, Gold M. What women want: A qualitative study of contraception in jail. *Am J Public Health* [Internet]. 2015 Nov 1 [cited 2025 Jun 3];105(11):2269–74. Available from: <https://pubmed.ncbi.nlm.nih.gov/26378832/>
6. Laufer S. REPRODUCTIVE HEALTHCARE FOR INCARCERATED WOMEN: FROM “RIGHTS” TO “DIGNITY.” 2019 [cited 2025 Jun 4]; Available from: <https://www.prisonpolicy>.
7. Paynter M, Heggie C, McKibbin S, Martin-Misener R, Iftene A, Murphy GT. Sexual and Reproductive Health Outcomes among Incarcerated Women in Canada: A Scoping Review. *Canadian Journal of Nursing Research* [Internet]. 2022 Mar 1 [cited 2025 Jun 4];54(1):72–86. Available from: <https://pubmed.ncbi.nlm.nih.gov/33508956/>

8. Carter Ramirez A, Liauw J, Cavanagh A, Costescu D, Holder L, Lu H, et al. Quality of Antenatal Care for Women Who Experience Imprisonment in Ontario, Canada. JAMA Netw Open [Internet]. 2020 Aug 1 [cited 2025 Jun 4];3(8). Available from: <https://pubmed.ncbi.nlm.nih.gov/32761161/>
9. Worku F, Gebresilassie S. REPRODUCTIVE HEALTH For Health Science Students [Internet]. University of Gondar; 2008 [cited 2025 Jun 2]. Available from: <https://www.nursinghero.com/study-files/4938108>
10. Child Health - Definition.