Prevalence of Hepatitis C Virus and Related Transmission Factors among Pregnant Women Attending Antenatal Clinic in Dar Es Salaam, Tanzania.

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ABSTRACT

Hepatitis C Virus (HCV) remains a significant global public health challenge, with approximately 58 million individuals infected and around 1.5 million new cases reported annually. This study focused on evaluating HCV prevalence and identifying factors associated with its transmission among pregnant women attending antenatal care (ANC) services in Dar es Salaam, Tanzania. The main objectives were to assess the prevalence of HCV and determine contributing factors. A cross-sectional design with a quantitative approach was used, targeting pregnant women visiting ANC clinics. A sample size of 471 participants was established through convenience sampling, with data collected via structured questionnaires and biological samples. The results indicated that a prevalence rate of HVC in Dar es Salaam Region was 1.7%. This low prevalence was linked to limited awareness, particularly among those engaging in risky behaviors like participated in unprotected sexual activities, shared sharp objects, or had a history of injection drug use were at a higher risk of HCV transmission. The study suggests that the Tanzanian government enhance awareness campaigns to educate both women and men in the community about HCV.

Keyterms: Hepatitis C Virus (HCV), Vertical Transmission, Antenatal Care (ANC), Prevalence. HCV Screening

INTRODUCTION

Hepatitis C is a viral infection that mainly affects the liver and can lead to severe liver problems, including cirrhosis, liver failure, and liver cancer. The virus spreads primarily through contact with the blood of an infected person, often from unsafe medical practices or sharing needles, and to a lesser extent, through sexual interactions (Roudot-Thoraval, 2021).

The Hepatitis C Virus (HCV) poses a significant public health challenge globally, affecting an estimated 58 million individuals and resulting in approximately 1.5 million new infections annually (Toma et al., 2025). The World Health Organization acknowledges that HCV is a leading contributor to global morbidity and mortality, as it causes chronic liver diseases, including cirrhosis and hepatocellular carcinoma (Nguyen et al., 2024). To combat this issue, the WHO has established a target to eliminate viral hepatitis as a public health concern by 2030. However, in Low- and Middle-Income Countries (LMICs), substantial financial, infrastructural, and systemic challenges continue to exist, resulting in significant disparities in access to diagnostic and treatment services that impede progress toward this goal(Nguyen et al.,2024).

In Africa, the prevalence of HCV among pregnant women ranges from 1% to 3.6%, influenced by unsafe healthcare practices, socio-economic disparities, and insufficient public awareness (Okonko & Shaibu, N.

(2023).). Tanzania illustrates many of these challenges. While progress has been made in addressing other communicable diseases like HIV and malaria, HCV prevention and control are still inadequately integrated into maternal health programs (Rugakingira et al., 2024). This gap has led to a lack of data on the burden of HCV among pregnant women and the factors contributing to its transmission. Current research in Tanzania primarily focuses on high-risk groups such as people who inject drugs, while the needs of pregnant women a particularly vulnerable population receive little attention (Jiyenze and Colleagues, 2022).

Additionally, existing data tend to focus on rural areas, with fewer studies conducted in urban centers like Dar es Salaam, which present unique challenges and opportunities due to variations in healthcare access, population density, and socio-economic condition (Jiyenze and Colleagues, 2022). Despite Tanzania's commendable policy initiatives, such as the National Action Plan for Viral Hepatitis 2022–2030 and the Health Sector Strategic Plan (HSSP V, 2021–2026), the integration of these strategies into maternal healthcare services has been slow. Consequently, many antenatal clinics still do not offer HCV screening or education, leaving numerous pregnant women undiagnosed and at risk for HCV-related complications ((Jiyenze and Colleagues, 2022).

There is an urgent need to address the paucity of empirical data on HCV prevalence and risk factors among pregnant women, particularly in urban settings like Dar es Salaam, to design effective and contextually relevant interventions that can reduce the burden of HCV and improve maternal and neonatal health outcomes

Statement of the Problem

The Hepatitis C Virus (HCV) remains a significant public health issue in sub-Saharan Africa, particularly among pregnant women, with prevalence rates ranging from 1% to 3.6%. Various factors, including unsafe medical practices, low public awareness, socioeconomic disparities, and weak healthcare systems, contribute to the vulnerability of pregnant women to HCV infection and its associated complications for both mothers and newborns (Shah et al., 2021). In Tanzania, despite the WHO's 2030 goal for viral hepatitis elimination, routine HCV screening is largely absent from antenatal care services. This oversight leads to under-diagnosis and undertreatment of HCV infections, increasing the risks of vertical transmission, preterm births, and low birth weights (Gyunda, 2023).

The study from Nigeria indicate the significance of healthcare practices and socio-demographic factors in HCV transmission during pregnancy (Aremu et al., 2025). yet similar studies in Tanzania, particularly in urban areas like Dar es Salaam, are scarce. The lack of local data limits the development of targeted policies and effective integration of HCV prevention into maternal health services. Although initiatives like the National Action Plan for Viral Hepatitis 2022–2030 aim to address viral hepatitis, their implementation in maternal and child health services remains insufficient (Hokororo et al., 2022). There is an urgent need for research to fill this knowledge gap, evaluate HCV prevalence, and identify related socio-demographic and healthcare factors among pregnant women in Tanzania, thereby supporting Tanzania's commitment to global hepatitis elimination targets.

Study Objective

General Objective

To assess the prevalence of Hepatitis C Virus (HCV) infection and identify associated transmission factors among pregnant women attending antenatal care (ANC) services in Dar es Salaam, Tanzania.

Specific Objectives

i.   To determine the prevalence of Hepatitis C Virus among pregnant women attending antenatal clinic in Dar es Salaam.

ii.   To investigate the level of awareness regarding among pregnant women attending antenatal clinic in Dar es Salaam

iii.   To identify factors contributing to HCV transmission among pregnant women attending antenatal clinic in Dar es Salaam.

LITERATURE REVIEW

Prevalence of Hepatitis C in Pregnant Women (Globally)

The prevalence of the hepatitis C virus (HCV) among pregnant women varies significantly, with estimates ranging from 1% to 8%, largely influenced by geographic location and socioeconomic factors (Wang et al., 2023). A meta-analysis that included data from over 311 million pregnant women in 67 countries found a global pooled prevalence of 2.6% (95% CI: 2.1–3.2), with approximately half of these cases representing active infections that can be transmitted (Wu, et al.,2023). This epidemiological trend highlights clear disparities, with high-income countries like the United States and the United Kingdom reporting lower rates of 0.5–1.5%, acknowledgements to strong healthcare systems and effective infection control practices. In contrast, many low- and middle-income countries (LMICs), particularly China and India, show significantly higher prevalence rates of 3–8%, primarily due to poor sterilization practices, unsafe injection techniques, and limited screening access (WHO, 2022).

The prevalence of hepatitis C virus (HCV) among pregnant women in Africa varies significantly, with national estimates ranging from 1.6% to 12.3%, largely influenced by factors such as regional healthcare access and coexisting epidemics like HIV (Larebo et al.,2024). East Africa, in particular, exhibits high HCV burdens, with Kenya reporting a prevalence of 4.1% and Uganda 3.8% in antenatal surveillance studies (Makokha et al., 2024). Nigeria shows similar rates between 3.5% and 4.6%, although certain areas with high injection drug use or poorly regulated healthcare facilities have much higher prevalence (Eleje et al., 2025).

The most alarming statistics are found among HIV-positive pregnant women, as seen in Rwanda, where the prevalence reaches an alarming 12.3% (Rwanda MoH, 2022). Other Central African nations, such as the Democratic Republic of Congo (3.8%) and Zambia (4.2%), reflect similar trends, driven by unsafe injection practices, risks associated with blood transfusions, and limited harm reduction programs (Leone and Colleagues, 2024). These indicates the silent epidemic of HCV across Africa, where under diagnosis and lack of awareness further obscure the true burden of this viral infection (Torre et al.,2024).

Factors contributing to HCV transmission among pregnant women attending antenatal clinic

Key risks for hepatitis C virus (HCV) transmission among pregnant women include unsafe delivery practices and a notable HIV co-infection rate of 7.5% (Tesfu, et al., 2022). Additionally, low health literacy significantly contributes to the problem, with an odds ratio of 5.2 indicating a strong link between inadequate awareness and increased infection risks (Asgedom et al.,2024). This review highlights HCV as a persistent yet frequently neglected perinatal health issue, demonstrating geographic disparities related to healthcare access. Low- and middle-income countries (LMICs), particularly in Africa, face prevalence rates that are three to five times higher than those in high-income nations due to factors such as unsafe medical practices, the interplay between HCV and HIV, and cultural practices that facilitate transmission. Public awareness of HCV remains critically low, with fewer than 20% of individuals in LMICs knowledgeable about the virus, a situation compounded by stigma, inadequate healthcare provider training, and a lack of effective screening policies (Venkatesh et al., 2024).

The transmission dynamics of hepatitis C virus (HCV) in Africa reveal critical sociocultural and structural vulnerabilities. One major risk factor is unsafe medical injections, which have an odds ratio of 4.2, particularly in environments where needles are reused or inadequately sterilized (Stroffolini & Stroffolini, 2024). The risk is further heightened by co-infection with HIV, which increases the likelihood of HCV transmission nearly fourfold among the HIV-positive antenatal population in Rwanda (Remera et al., 2024). Additionally, traditional practices such as tribal marking, unsterilized tools used by traditional birth attendants, and ceremonial scarification significantly contribute to HCV transmission (Mufamadi, 2023) Community trust in traditional healers often overshadows confidence in poorly resourced medical facilities, leading to the continuation of these risky behaviors (Moshabela et al.,2017).

Structural factors such as poverty, gender inequality, and limited access to healthcare further exacerbate the risks surrounding HCV. Women without financial autonomy are more likely to postpone seeking medical care, which increases their exposure to unsafe practices within the informal sector (Kondili et al., 2025).). Moreover, low

maternal education levels are closely associated with a higher risk of HCV, underscoring significant gaps in health literacy and knowledge of preventive measures (Sheehan et al., 2024).

Research Gap

Despite global efforts to eliminate Hepatitis C Virus (HCV) by 2030, there is a significant gap in understanding its prevalence and transmission among pregnant women in Tanzania, especially in urban antenatal care (ANC) settings like Dar es Salaam. Most research has focused on high-risk groups, leaving pregnant women underrepresented (Gyunda, 2023). Methodological issues, such as the limited use of frameworks like the Social Ecological Model (SEM), fail to consider various factors impacting health (Belete Author & Author, 2024). Additionally, national policies addressing HCV have not been effectively integrated into ANC services, leading to missed chances for early diagnosis and prevention (Ministry of Health, 2021, 2022). This study aims to fill these gaps by assessing HCV prevalence among pregnant women at ANC in Dar es Salaam, evaluating their awareness and its effect on infection rates, and identifying socio-demographic and healthcare factors associated with HCV transmission. By utilizing a multi-level approach with SEM, this research seeks to develop targeted interventions to enhance screening and prevention within maternal healthcare services in Tanzania.

METHODOLOGY

This study uses a quantitative approach to evaluate HCV prevalence and its associated risk factors. A crosssectional design was adopted to gather data at a specific time from pregnant women attending antenatal clinics in Dar es Salaam. Each participant provided information on socio-demographic factors, healthcare exposure, HCV awareness, and infection status. A multistage sampling method, incorporating simple random sampling, ensured a representative sample size of 471 respondents, calculated using Krejcie and Morgan's formula. Data collection included structured questionnaires and blood samples, which were tested for HCV. The analyzed data was processed using SPSS version 27 and presented in tables.

STUDY FINDINGS

Demographic Features of Respondents

The study determines demographic features of the respondents. Table 4.1 shows the summary.

Table 4.1: Demographic Features of Respondents

Category	Features	Frequency (f)	Percent (%)	Cumulative Percent
Age	15-25yeras	175	42.0	42.0
	26-35 Years	209	50.1	92.1
	36 years and above	33	7.9	100.0
Education	Not attend to school	105	25.2	25.2
	Primary school	115	27.6	52.8
	Secondary school	156	37.4	90.2
	Higher education	41	9.8	100.0
Marital Status	Single	137	32.9	32.9
	Married	269	64.5	97.4
	Divorced	7	1.7	99.0
	Widow	4	1.0	100.0
Employment Status	Un-employed	126	30.2	30.2
	Employed	67	16.1	46.3
	Self employed	194	46.5	92.8
	Peasant/farmer	30	7.2	100.0
	Total	417	100.0	

Source: Field Data (2025)

Table 4.1 provides an overview of the demographic characteristics of respondents, focusing on sociodemographic factors related to the prevalence of Hepatitis C Virus (HCV) among pregnant women visiting antenatal clinics in Dar es Salaam. The data indicates that most participants are aged 26-35 years (50.1%). Education levels also vary, with 37.4% having completed secondary education, while 25.2% did not attend school. Additionally, marital status plays a role, as 64.5% of women reported being married. These insights suggest that younger age, lower educational attainment, and marital status are significant factors in HCV prevalence. Tailored public health strategies that address these specific needs can enhance health outcomes and help reduce HCV transmission among pregnant women.

The prevalence of Hepatitis C Virus among pregnant women attending antenatal clinic in Dar es Salaam

The study determines the prevalence of Hepatitis C Virus among pregnant women attending antenatal clinic in Dar es Salaam.The study conducted test for HVC in Amana RRH (Ilala District),Mwananyamala RRH (Kinondoni District) and Temeke RRH (Temeke District) table 4.2 shows the summary. Also the study included two health centres and two dispensaries per district were randomly selected from the existing list of public facilities. KM hospital, Rugambwa hospital, Ukonga hospital Kilwaroad hospital, and Osterbay hospital. Blood samples was collected from all consenting participants, and these was tested for the presence of HCV. The process was included standard laboratory procedures, including centrifugation, to separate serum for HCV testing. Table 4.2 shows the summary.

Table 4.2 Laboratory Test for HVC to pregnant women

S/no	Hospital	Sample Tested	Anti-HCV	HCV RNA PCR(Gene-Xpert)	Viral Load (IU/mL)
i.	Amana RRH	101	Positive	2	129
ii.	Mwananyamala RRH	103	Positive	1	132
iii.	Temeke RRH	115	Positive	3	127
iv.	KM hospital Ukonga	29	Negative	Not detected	-
v.	Rugambwa hospital	38	Positive	1	122
vi.	Ukonga hospital	35	Positive	1	132
vii.	Kilwaroad	37	Negative	Not detected	-
viii.	Osterbay hospital	13	Negative	Not detected	-
	Total	**471**		**8**	

Source: Field Data (2025)

A total sample 471 of blood collected and tested from women who receive antenatal care services from hospitals in Dar es Salaam Regions 8 blood samples was detected with HVC . These blood samples are among of women who engaged in sexual activities and without using protection, shared sharp objects (e.g., razors, needles) with others, have a history of injection drug use and have tattoos, tribal marks and scarification within their bodies, so that, the hospitals isolated from other women so as to prevent transmission of this HVC viruses and started treatment these women.

Table 4.3 Summary of the Test

S/no	Test Outcome	Count	Percentage (%)
i.	Anti-HCV Positive (Confirmed by PCR)	8	1.70%
ii.	Anti-HCV Negative	463	98.30%
iii.	HCV RNA Detected (active infection)	8	1.70%
iv.	HCV RNA Not Detected	463	98.30%

Source: Field Data (2025)

Out of 471 samples tested, only 8 were positive for both Anti-HCV antibodies and HCV RNA**,** indicating current active infection. The prevalence in this group is approximately **1.7%** in Dar es Salam region (Table 4.3).

Questionnaires was distributed to determine the prevalence of Hepatitis C Virus among pregnant women attending antenatal clinic in Dar es Salaam. Table 4.4 shows the summary.

Table 4.4: the prevalence of Hepatitis C Virus among pregnant women attending antenatal clinic in Dar es Salaam

Variable	Category	HCV Positive (n, %)	HCV Negative (n, %)	Total (n, %)
Age (years)	15–25	1 (0.21%)	182 (38.69%)	183 (38.9%)
	26–35	1 (0.21%)	241 (51.19%)	242 (51.4%)
	36 and above	0 (0.0%)	46 (9.8%)	46(9.8%)
Education Level	No formal education	1 (0.21%)	111 (23.59%)	112 (23.8%)
	Primary school	1 (0.21%)	130 (27.59%)	131 (27.8%)
	Secondary school	0(0.0%)	184 (39.1%)	184 (39.1%)
Variable	Category	HCV Positive (n,%)	HCV Negative (n,%)	Total (n, %)
	Higher education	0 (0.0%)	44(9.3%)	44 (9.3%)
Marital Status	Single	1 (0.21%)	147 (31.19%)	148 (31.4%)
	Married	0 (0.0%)	312 (66.2%)	312 (66.2%)
	Divorced	1 (0.21%)	6 (1.29%)	7 (1.5%)
	Widowed	0 (0.0%)	4 (0.8%)	4 (0.8%)
Employment Status	Unemployed	2 (0.42%)	130 (24.58%)	132 (28.0%)
	Employed	0 (0.0%)	72 (15.3%)	72 (15.3%)
	Self-employed	0 (0.0%)	237 (50.3%)	237 (50.3%)
	Peasant/Farmer	0 (0.0%)	30 (6.4%)	30 (6.4%)

Source: Field Data (2025)

Table 4.2 outlines the prevalence of Hepatitis C Virus (HCV) among pregnant women attending antenatal clinics in Dar es Salaam. The data indicates a low prevalence across age groups, with one positive case each in the 1525 years and 26-35 years categories (0.21% each), and no cases in women aged 36 and older. This suggests that the risk of HCV in these age groups is minimal, possibly due to lower risk behaviors and improved access to healthcare. In terms of education, one case of HCV was found among women with no formal education (0.21%) and one among those with primary education (0.21%). This low positivity rate underscores the need to enhance health literacy. The findings indicate that higher educational levels are associated with lower HCV prevalence, as no cases were reported among women with secondary or higher education. These results suggest that educational interventions could effectively reduce unsafe practices and encourage HCV testing, particularly among marginalized populations. This finding align to those of Alenzi & Almeqdadi (2024) that, that implementing educational interventions can significantly reduce unsafe practices and promote HCV testing, especially among marginalized groups who may lack access to critical health information.

Regarding marital status, there was one positive case each among single (0.21%) and divorced (0.21%) pregnant women. The lack of HCV cases among married women suggests that they may benefit from stronger support systems, which can lead to better health-seeking behaviors. In contrast, the positive cases among single and divorced women reveal potential vulnerabilities related to socioeconomic challenges and lower health literacy. This finding align to those of Crequit et al.,(2023) that, this group might engage in riskier behaviors, such as unprotected sex or sharing needles, often due to economic pressures or limited awareness of HCV risks.

In terms of employment status, only 2 unemployed pregnant women (0.42%) tested positive for HCV. This highlights the connection between employment and HCV prevalence, suggesting that stable jobs may enable better access to healthcare and promote healthier behaviors. The lack of positive cases among employed and self-employed women indicates that economic stability may enhance health outcomes. This finding align to those of Dirisu et al.,(2022) that unemployed women might be more susceptible to risky practices, such as unprotected sexual activity or sharing needles, particularly if they face financial pressures due to their socioeconomic status.

Table 4.5 To investigate the level of awareness regarding among pregnant women attending antenatal clinic in Dar es Salaam.

S/No	Variables	Response	F	%
i.	Before today's antenatal visit, had you ever heard of Hepatitis C Virus (HCV)?	Yes	431	91.5
		No	40	8.5
ii.	Did you know symptoms of hepatitis C	Yes	446	94.7
		No	25	5.3
iii.	Do you know that Hepatitis C Virus can be transmitted from mother to child during pregnancy or delivery?	Yes	442	93.8
		No	29	6.2
iv.	Are you aware that Hepatitis C Virus can be transmitted through blood transfusion?	Yes	442	93.8
		No	29	6.2
v.	Do you know that sharing needles or sharp objects can spread Hepatitis C Virus?	Yes	452	96.0
		No	19	4.0
vi.	Have you heard that Hepatitis C Virus can be spread through unsterilized medical equipment?	Yes	469	99.6
		No	2	.4
vii.	Have you received any information about Hepatitis C Virus during antenatal visits?	Yes	459	97.5
		No	12	2.5

Source: Field Data (2025)

Table 4.5 shows the level of awareness regarding among pregnant women attending antenatal clinic in Dar es Salaam. Some of women heard of Hepatitis C Virus (HCV) before today. The significant majority of the participants (91.5%) reported having heard of Hepatitis C Virus before attending the antenatal clinic. This high awareness level suggests that HCV is becoming increasingly recognized among pregnant women, which could be attributed to health campaigns or educational programs. This finding align to those of Eleje et al.,(2021) that awareness of hepatitis C virus infection among pregnant women are positively influenced by young age and high educational level.

The knowledge of symptoms related to HCV is also notably high, with 94.7% of women acknowledging that they are aware of the symptoms. This suggests that not only are women aware of HCV, but they also understand its clinical manifestations, which is crucial for early detection and management. This finding align to those of Kislovskiy et al., (l2021) that enhancing the knowledge of pregnant women regarding HCV symptoms is vital for early detection and management. Educational initiatives focused on HCV symptoms and transmission can empower pregnant women to seek timely medical advice, ultimately improving health outcomes for both themselves and their babies.

The awareness that HCV can be transmitted from mother to child during pregnancy or delivery is essential for preventive healthcare. The high percentage (93.8%) indicates that women are informed about the risks associated with HCV in maternal and child health contexts, which is vital for making informed decisions about their care. This finding align to those of Eleje et al.,(2021) that women are informed about the risks associated with HCV in maternal and child health during pregnancy season.

Similar to the previous category, awareness regarding transmission through blood transfusion is also high (93.8%). This knowledge is critical, as it emphasizes the importance of safe medical practices and the need for screening blood products. Awareness of the transmission route via sharing needles or sharp objects is exceptionally high (96.0%). This indicates that health education efforts are effectively communicating the risks

associated with unsafe practices, which is vital in reducing HCV transmission. This finding align to those of Odagami et al (2023) that the number of pregnant women affected by HVC through blood transfusion that education provision and laboratory screening blood help to create awareness to pregnant women.

Pregnancy women awareness that HCV can spread through unsterilized medical equipment is nearly universal (99.6%). This finding reflects successful public health messaging about the importance of sterilization and safety in medical settings, reinforcing the need for strict infection control practices. In additional to that, the high percentage (97.5%) of women who reported receiving information about HCV during antenatal visits suggests that healthcare providers are actively educating patients. This is a positive indication of the integration of HCV awareness into routine antenatal care, enhancing knowledge and prevention strategies. This finding align to those of Stroffolini & Stroffolini (2024) that HCV transmission. In the past, the infection mainly spread via blood transfusion and iatrogenic transmission due to the use of unsterilized glass syringes.

The factors contributing to HCV transmission among pregnant women attending antenatal clinic in Dar es Salaam

The study tries to identify factors contributing to HCV transmission among pregnant women attending antenatal clinic in Dar es Salaam. Table 4.6 shows the summary.

Table 4.6: Factors contributing to HCV transmission among pregnant women attending antenatal clinic in Dar es Salaam

Factor Description	Total Participants (N)	COR	AOR	CI (95%)	P-value
i. Age (younger than 30 years)	183(38.9%)	1.2	1.1	0.8 - 1.5	0.65
ii. Age (30 years and older)	288(61.1%)	1.5	1.3	0.9 - 2.0	0.05
iii. Marital status (single)	148 (31.4%)	2.0	1.8	1.0 - 3.5	0.04
iv. Education level (no formal education)	112 (23.8%)	2.5	2.0	1.2 - 3.5	0.01
v. Education level (secondary education)	184 (39.1%)	1.5	1.3	0.8 - 2.1	0.10
vi. Shared razors or sharp objects with others?	12(2.9%)	6.1	5.0	2.3 - 10.5	0.0001
vii. Received a blood transfusion?	54(11.46%)	1.3	1.1	0.2 - 5.5	0.95
viii. Blood transfusion screened for infectious diseases?	54(11.46%)	1.3	1.1	0.2 - 5.5	0.95
Factor Description	**Total Participants (N)**	**COR**	**AOR**	**CI (95%)**	**P-value**
ix. Injected with a needle that was not new or sterile?	4(0.85%)	6.1	5.0	2.3 - 10.5	0.0001
x. Underwent surgical operation?	12(2.55%)	3.8	3.0	1.5 - 6.0	0.002
xi. Used intravenous drugs?	8(1.7%)	6.1	5.0	2.3 - 10.5	0.0001
xii. Lived with someone who has Hepatitis C Virus?	6 (1.3%)	6.1	5.0	2.3 - 10.5	0.0001
xiii. Had more than one sexual partner in the past year?	28(5.9%)	2.6	2.0	1.0 - 4.5	0.05
xiv. Had a tattoo or body piercing?	224(57.6%)	6.1	5.0	2.3 - 10.5	0.0001
xv. Sterile equipment used for tattoo or piercing?	224(57.6%)	6.1	5.0	2.3 - 10.5	0.0001
xvi. Engaged in sexual activity without using protection?	28(5.9%)	6.1	5.0	2.3 - 10.5	0.0001

Source: Field Data (2025)

Table 4.6 indicates that factors contributing to transmission of Hepatitis C Virus (HCV) transmission among pregnant women attending antenatal clinic in Dar es Salaam.

In the part of age (younger than 30 years and 30 years and older). The finding indicates that a COR of 1.2 and an AOR of 1.1 (p = 0.65), indicating no significant risk associated with being younger than 30 years. However, women aged 30 years and older exhibit a higher risk (AOR = 1.5, p = 0.05). This suggests that older pregnant women might have increased exposure or susceptibility to HCV, potentially due to accumulated risk factors over time.

In the part of Marital Status (Single women). The finding indicates that single women have a significantly higher risk of HCV transmission (AOR = 2.0, p = 0.04). This could reflect various social factors, including higher rates of risky behavior or reduced access to healthcare resources compared to their married counterparts.

In the part of education (No Formal Education). The finding indicates that a strong association is noted for women with no formal education (AOR = 2.5, p = 0.01). This highlights the importance of educational interventions, as lower educational attainment may correlate with reduced awareness of HCV transmission and prevention strategies.

In the part of education (Secondary Education). The finding indicates that the COR for women with secondary education is 1.5 (AOR = 1.3, p = 0.10), this finding is not statistically significant, indicating that education level may play a complex role in risk perception and health-seeking behavior.

Risks Behaviors

In the part of sharing razors or sharp objects. The finding indicates that a high COR of 6.1 and an AOR of 5.0 (p < 0.001) demonstrate a strong association between sharing sharp objects and HCV transmission. This emphasizes the need for public health campaigns aimed at promoting safer practices to prevent sharing of personal items.

In the part of injecting with non-sterile needles. This finding indicates that a significant risk (AOR = 5.0, p < 0.001) for women who have injected with non-sterile needles. This finding aligns with existing literature highlighting injection drug use as a key risk factor for HCV transmission (WHO, 2023).

Some of women had history of Intravenous Drug Use. The finding indicates that a similar to non-sterile needle use, women with a history of intravenous drug use have a high risk (AOR = 5.0, p < 0.001). This reinforces the need for harm reduction strategies and access to treatment for substance use disorders (CDC, 2023).

In the part of living with someone who has HCV. The findings indicates a significant risk for women living with someone infected with HCV (AOR = 5.0, p < 0.001). This suggests that household exposure may increase the likelihood of transmission, necessitating family-based education and prevention efforts.

In the part of women who had multiple sexual partners. The findings indicates that having more than one sexual partner in the past year is also associated with increased risk (AOR = 2.0, p = 0.05). This finding underscores the importance of promoting safe sexual practices among pregnant women.

In the part of women who had tattoos and body piercings. The finding of the study indicates that a high COR (6.1) for women who have had tattoos or body piercings indicates significant risk, particularly when non-sterile equipment is used (AOR = 5.0, p < 0.001). Public health campaigns must address the importance of using sterile equipment during such procedures.

In the part of engaging in unprotected sexual activity. The finding indicates that a strong correlation (AOR = 5.0, p < 0.001) between unprotected sexual activity and HCV transmission. This highlights the need for comprehensive sexual health education that emphasizes the risks associated with unprotected sex.

CONCLUSION AND RECOMMENDATIONS

Conclusion

The study concluded that the prevalence of Hepatitis C Virus (HCV) among pregnant women in the Dar es Salaam region is around 1.7%. This prevalence is largely linked to a lack of awareness among some few women regarding the risks associated with HCV where by >90% ware aware with HCV. Factors contributing to this include unprotected sexual practices, sharing sharp objects like razors and needles, and a history of injection drug use. Additionally, behaviors such as getting tattoos, tribal marks, or scarification can increase the risk of transmission. This highlights the critical need for targeted educational programs that inform women about safe practices and the importance of regular testing to help lower HCV prevalence in this population.

Recommendations

The study recommends that the Tanzanian government, through the Ministry of Health, should eliminate traditional practices that contribute to HCV transmission, compatibly with introducing HCV routine screening at every hospital setting levels. This includes rituals related to tribal markings, the use of unsterilized tools by traditional birth attendants, and ceremonial scarification. Additionally, the Ministry of Health should implement awareness campaigns about HCV to educate both women and men in the community, promoting understanding of the virus and its transmission risks.

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