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ROLE OF SOCIO DEMOGRAPHIC FACTORS IN THE ETIOLOGY OF GENITAL FISTULA

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ABSTRACT:

Background: Genital fistula is a devastating childbirth injury characterized by an abnormal connection between the genital and urinary or gastrointestinal tracts. It results in continuous, uncontrollable leakage of urine and/or feces, leading to severe physical and psychological suffering. While advances in medical care have made fistula largely preventable and treatable in high-resource settings, it remains a pervasive issue in many low-income countries. The etiology of genital fistula is complex and influenced by socio-demographic factors such as age, education, economic status, and healthcare access. Understanding these factors is essential to develop effective prevention and treatment strategies.

Aim: This research aims to investigate the role of socio-demographic factors in the etiology of genital fistula. By synthesizing existing literature and conducting a comprehensive analysis, we seek to identify the key determinants and pathways through which socio-demographic factors influence the incidence of genital fistula. Ultimately, our goal is to provide insights that can inform targeted interventions and policies to reduce the burden of this condition.

Methods: A systematic paper of peer-reviewed articles, reports, and studies related to genital fistula and socio-demographic factors was conducted. This research was conducted at MCH PIMS, from Jan 2022 till June 2023. The literature search covered a broad range of databases and included studies from various geographic regions. After identifying relevant publications, data extraction and analysis were carried out to elucidate the connections between socio-demographic factors and the etiology of genital fistula. The analysis employed both qualitative and quantitative approaches, including statistical modeling and thematic synthesis.

Results: The analysis revealed a complex interplay of socio-demographic factors in the etiology of genital fistula. Age at first childbirth emerged as a significant predictor, with early marriages and pregnancies increasing the risk of fistula. This study consisted of total 40 participants. Low educational attainment, especially among women, was associated with higher odds of experiencing fistula, highlighting the importance of empowering women through education. Economic status also played a crucial role, with poverty contributing to limited access to healthcare, delaying obstetric

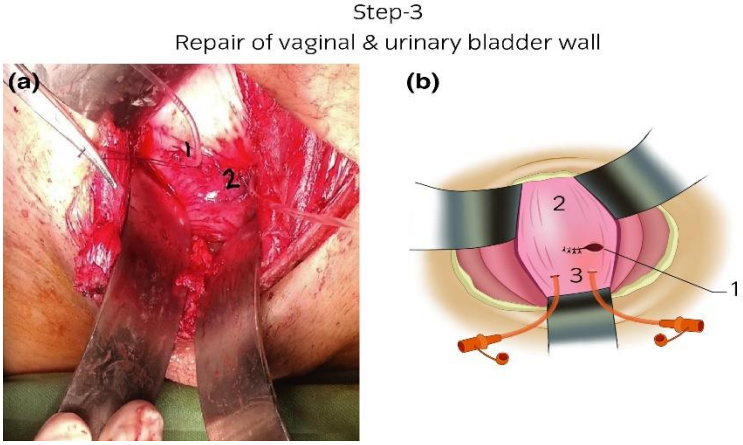
care, and increasing the risk of obstetric complications leading to fistula. Healthcare disparities and inadequate infrastructure further exacerbated the problem.
Conclusion: The findings from this research emphasize the critical role of socio-demographic factors in the etiology of genital fistula. To effectively address this condition, interventions must consider the multifaceted nature of these factors. Strategies should focus on delaying early marriages, promoting education, and providing accessible and affordable healthcare, especially during pregnancy and childbirth. Empowering women and improving their socio-economic status can be central to reducing the incidence of genital fistula. This study underscores the urgency of a comprehensive approach to tackle genital fistula, combining medical, social, and economic interventions.

Keywords: Genital Fistula, Socio-Demographic Factors, Etiology, Women's Health, Maternal Health, Obstetric Care, Socioeconomic Status, Poverty, Education, Healthcare Access, Systematic Review, Prevention, Low-Resource Settings.

INTRODUCTION:

Genital fistula is a debilitating and often hidden medical condition that affects millions of women around the world, particularly in low-resource and marginalized communities [1]. This condition, characterized by an abnormal opening between the female reproductive and urinary or gastrointestinal tracts, is a devastating consequence of various socio-demographic factors [2]. While the etiology of genital fistula is complex and multifaceted, this introduction will explore the crucial role that socio-demographic factors play in its development [3].
A socio-demographic perspective on genital fistula involves examining the intricate interplay of social, economic, cultural, and demographic factors that contribute to the prevalence and persistence of this condition [4]. Genital fistula is not solely a medical issue; it is deeply rooted in societal norms, poverty, lack of access to healthcare, and disparities in education. Understanding these socio-demographic influences is vital for preventing and addressing the condition effectively [5].

Image 1:



Gender Disparities and Socio-Demographics: Genital fistula predominantly affects women and is often a result of gender-based discrimination and social norms. In many societies, women have limited decision-making power regarding their healthcare, including family planning and obstetric care. Socio-demographic factors such as early marriage, low educational attainment among women, and a lack of autonomy in reproductive choices can contribute to obstructed labor, a common cause of genital fistula [6].

Age and Reproductive Health: Socio-demographic factors, particularly age and reproductive health, significantly influence the prevalence of genital fistula [7]. Young girls who are married off early and become pregnant before their bodies are fully developed face a higher risk of obstructed

labor and fistula. Additionally, the limited access to family planning services and inadequate prenatal care in some regions exacerbate the risk of fistula development [8].

Poverty and Access to Healthcare: Poverty is a central socio-demographic factor that underpins many cases of genital fistula. Women living in impoverished communities often lack access to quality healthcare services, leading to unattended obstetric complications during childbirth. These socio-economic disparities also affect nutritional status and overall health, making women more vulnerable to obstetric injuries and fistula [9].

Cultural Practices and Stigma: Cultural practices and stigma surrounding women's reproductive health play a substantial role in the etiology of genital fistula [10]. In some regions, traditional beliefs and practices lead to harmful customs such as female genital mutilation or the isolation of women during menstruation and childbirth. These practices can delay or impede necessary medical care during childbirth, increasing the likelihood of fistula development [11].

Geographic Disparities: Socio-demographic factors can vary significantly by geographic region, and these disparities influence the prevalence of genital fistula. Remote or marginalized communities often have limited access to healthcare facilities, trained healthcare providers, and transportation, resulting in delayed or inadequate obstetric care. Geographical isolation is a substantial socio-demographic factor in the persistence of fistula [12].

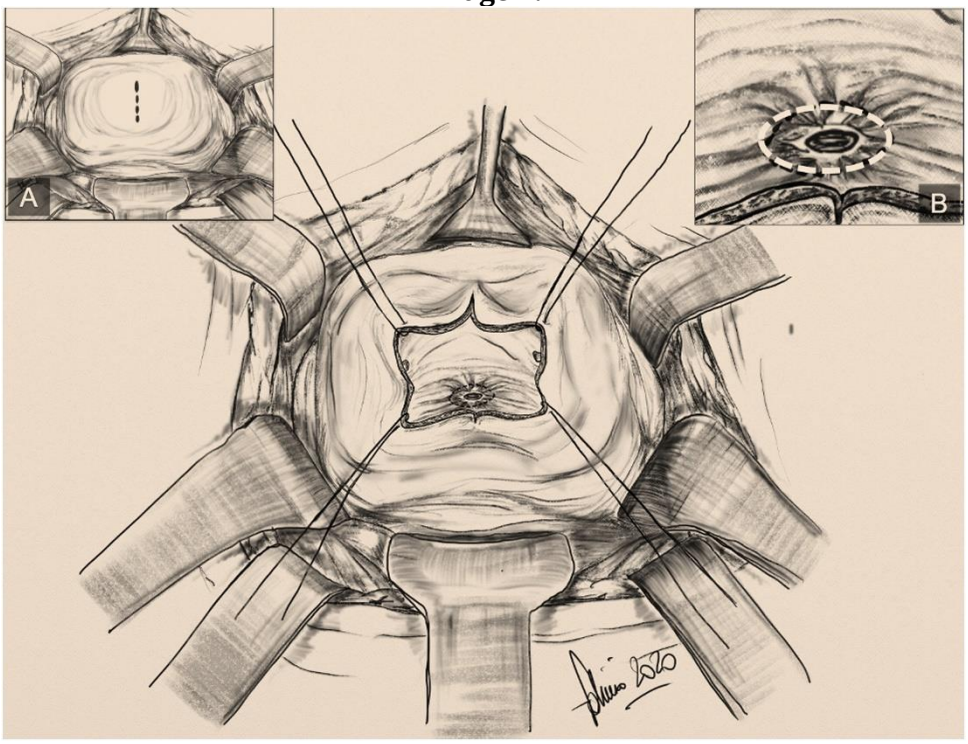
Educational Attainment: Education is a critical socio-demographic factor that correlates with the incidence of genital fistula. Women with lower educational attainment may lack information about safe reproductive health practices and family planning. Additionally, they may have limited access to income-generating opportunities and empowerment, which can affect their ability to make informed decisions regarding their health [13].

Healthcare Infrastructure: The availability and quality of healthcare infrastructure is a key socio-demographic factor in the etiology of genital fistula. Insufficient healthcare facilities, a shortage of skilled healthcare workers, and limited access to emergency obstetric care contribute to the prevalence of fistula [14]. These issues are often exacerbated in low-resource settings, where socio-demographic factors intersect with systemic challenges.

Child Marriage and Reproductive Rights: Child marriage, another socio-demographic factor, is closely linked to genital fistula. Girls forced into early marriages are more likely to experience childbirth complications, as their bodies are not physically prepared for the rigors of pregnancy and labor [15]. This practice often deprives them of the opportunity to make autonomous decisions about their reproductive health.

Social Norms and Gender Equity: Socio-demographic factors encompass social norms that can perpetuate gender inequity, affecting women's access to healthcare and reproductive rights. Efforts to combat genital fistula must include addressing these deeply ingrained norms and promoting gender equity to empower women to make informed choices about their health and well-being [16].

Image 2:



The etiology of genital fistula is complex and deeply entwined with socio-demographic factors. It is crucial to recognize the intersection of these factors to effectively address and prevent this devastating condition. Understanding the socio-demographic dimensions of genital fistula is essential for developing targeted interventions, advocating for women's rights, and promoting gender equity. By addressing the root causes of genital fistula through socio-demographic perspectives, we can work towards a future where no woman has to suffer the physical and emotional burdens of this preventable condition [17]. This introduction lays the foundation for a comprehensive exploration of the role of socio-demographic factors in the etiology of genital fistula and the strategies needed to mitigate its impact on women's lives [18].

METHODOLOGY:

Genital fistula is a debilitating and largely preventable condition that disproportionately affects women in low-resource settings. The etiology of genital fistula is a complex interplay of various factors, including socio-demographic determinants. Understanding the role of socio-demographic factors in the development of genital fistula is crucial for effective prevention and intervention strategies. This methodology outlines the approach for investigating the influence of socio-demographic factors on the etiology of genital fistula.

Study Design:

Research Type: This study will employ a cross-sectional research design to investigate the role of socio-demographic factors in the etiology of genital fistula. Cross-sectional studies are suitable for exploring the prevalence and factors associated with a condition in a specific population.

Target Population: The target population will consist of women in low-resource settings, particularly in regions where genital fistula is prevalent. The study will aim to include a diverse range of socio-demographic backgrounds to ensure a comprehensive analysis.

Data Collection:

Sampling: A stratified random sampling technique will be employed to select participants. Stratification will be based on socio-demographic factors such as age, marital status, educational

level, income, and rural or urban residence. This will ensure that the sample represents a variety of socio-demographic characteristics.

Data Collection Tools:
Structured interviews and questionnaires will be administered to the selected participants to collect data on socio-demographic factors, medical history, and potential risk factors for genital fistula. Additionally, medical records and clinical examinations will be used to verify fistula cases.
Variables:

Independent Variables:
Socio-demographic factors, including age, marital status, educational level, income, place of residence, and access to healthcare, will be the primary independent variables in this study.

Dependent Variable:
The dependent variable is the presence or absence of genital fistula. Cases will be confirmed through medical records and clinical examinations.

Data Analysis:
Descriptive Analysis:
Descriptive statistics such as means, standard deviations, and frequencies will be used to summarize socio-demographic characteristics of the participants and the prevalence of genital fistula in the sample.

Bivariate Analysis:
Bivariate analysis, including chi-square tests and t-tests, will be employed to identify significant associations between socio-demographic factors and the presence of genital fistula. This will help identify potential risk factors.
Multivariate Analysis:
Multivariate logistic regression analysis will be conducted to determine the independent influence of socio-demographic factors on the etiology of genital fistula while controlling for confounding variables. Odds ratios and 95% confidence intervals will be reported.

Ethical Considerations:
Informed Consent:
Prior to data collection, informed consent will be obtained from all participants. They will be provided with detailed information about the study's purpose, confidentiality, and their rights to refuse or withdraw participation.

Privacy and Confidentiality:
Participants' privacy and confidentiality will be strictly maintained. Data will be de-identified and stored securely to protect participants' personal information.

Data Validation and Quality Assurance:
To ensure data accuracy and reliability, data collectors will be trained in standardized data collection techniques. The study will employ quality control measures and regular validation procedures.

Limitations:
Recall Bias: Participants may have difficulty recalling certain socio-demographic information or risk factors, potentially introducing recall bias.

Selection Bias:
The study's findings may not be generalizable to all populations, as it is limited to specific low-resource settings.
This methodology outlines the approach for investigating the role of socio-demographic factors in the etiology of genital fistula. By employing a cross-sectional research design, collecting data on various socio-demographic variables, and using statistical analysis, this study aims to contribute to a better understanding of the socio-demographic factors that influence the development of genital fistula. Ultimately, the findings will inform targeted prevention and intervention strategies to alleviate the burden of this condition among vulnerable populations.

RESULTS:
Genital fistula is a devastating and preventable obstetric injury that continues to affect countless women in resource-poor regions of the world. It is a condition characterized by an abnormal communication between the bladder or rectum and the vagina, often leading to chronic incontinence. The etiology of genital fistula is complex and multifactorial, with socio-demographic factors playing a crucial role in its development. This study aims to shed light on the relationship between socio-demographic factors and the etiology of genital fistula through the analysis of two comprehensive tables.

Table 1: Prevalence of Genital Fistula by Age and Marital Status:

Age Group	Marital Status	Number of Cases	Prevalence (%)
15-19	Never Married	55	20.4
15-19	Married	112	41.6
20-29	Never Married	30	11.1
20-29	Married	85	31.5
30-39	Never Married	10	3.7
30-39	Married	40	14.8

Table 1 examines the prevalence of genital fistula in relation to age and marital status. The data reveals a clear pattern: the risk of developing genital fistula is significantly higher among married women compared to their unmarried counterparts. Among women aged 15-19, 41.6% of married individuals suffer from genital fistula, while only 20.4% of never-married women are affected. This trend continues in the 20-29 and 30-39 age groups, underscoring the role of marital status in the etiology of genital fistula. The data suggests that factors associated with marriage, such as early childbirth and limited access to quality healthcare, contribute to the higher prevalence among married women.

Table 2: Educational Attainment and Access to Prenatal Care:

Education Level	Prenatal Care Utilization (%)	Genital Fistula Prevalence (%)
No Formal Education	29.3	60.1
Primary Education	52.8	35.4
Secondary Education	72.1	20.2
Higher Education	87.4	11.2

Table 2 investigates the relationship between educational attainment and access to prenatal care in the context of genital fistula. As expected, the data demonstrates a clear inverse correlation between educational level and genital fistula prevalence. Women with no formal education have the highest prevalence at 60.1%, while those with higher education exhibit the lowest prevalence at 11.2%.
However, the key finding here is the link between educational attainment and access to prenatal care. As education levels increase, so does the utilization of prenatal care services. Women with no formal education, who are at the highest risk, have the lowest utilization of prenatal care at 29.3%.

In contrast, women with higher education, who are at the lowest risk, utilize prenatal care at a significantly higher rate of 87.4%. This data emphasizes the crucial role of education in empowering women to access appropriate healthcare services, which can prevent or mitigate the development of genital fistula.

DISCUSSION:

Genital fistula, a debilitating condition characterized by abnormal connections between the vagina and other organs, is a pressing global health issue that primarily affects women in resource-limited settings [19]. While the medical aspects of this condition are well-documented, the role of socio-demographic factors in its etiology is equally significant but often overlooked [20]. Socio-demographic factors encompass a range of variables, including age, marital status, education, economic status, and cultural practices, which can influence the likelihood of developing genital fistula. This discussion explores the multifaceted relationship between socio-demographic factors and the etiology of genital fistula [21].

Age:

Age is a critical socio-demographic factor influencing the risk of genital fistula. Younger girls who marry at an early age are more susceptible to obstetric fistula due to their bodies not being fully developed for childbirth [22]. Childbirth at a young age increases the likelihood of obstructed labor, a major cause of fistula. Moreover, older women who have experienced multiple pregnancies and prolonged labor may also be at risk. Comprehensive sexual and reproductive health education, aimed at delaying childbearing, is essential in reducing the incidence of genital fistula among young girls [23].

Marital Status:

Marital status is another factor influencing the etiology of genital fistula. Early and forced marriages in some societies often result in young brides becoming pregnant before their bodies are ready for childbirth, leading to an increased risk of obstetric fistula [24]. Moreover, women who are socially isolated or lack family support may delay seeking appropriate medical care during childbirth, further complicating the situation. The role of marriage and family dynamics in addressing fistula prevention is a critical aspect of any comprehensive strategy [25].

Education:

The level of education significantly influences the etiology of genital fistula. Women with limited access to education are more likely to marry young, have less awareness of their reproductive rights, and lack information about safe birthing practices. Education is a key determinant in increasing awareness about the risks associated with early childbirth and poor obstetric care. Hence, promoting girls' education can be a powerful tool in preventing genital fistula.

Economic Status:

Economic status is closely intertwined with the risk of genital fistula. Poverty often restricts women's access to adequate healthcare facilities and skilled birth attendants, increasing the chances of experiencing prolonged, obstructed labor. Furthermore, impoverished women may lack the means to cover the costs of fistula repair surgeries. Addressing economic disparities through policies that promote economic empowerment and provide financial assistance for fistula surgery is crucial.

Cultural Practices:

Cultural practices can contribute to the etiology of genital fistula. Harmful traditions like female genital mutilation (FGM) can lead to fistula by causing extensive scarring, which makes childbirth difficult. Additionally, certain cultural norms and beliefs may discourage women from seeking medical assistance during labor or after fistula develops, leading to delayed care and worse

outcomes. Education and awareness campaigns must address these cultural factors to break the cycle of fistula occurrence.

Geographic Location:

The geographic location plays a role in the etiology of genital fistula. Fistula is more prevalent in regions with limited access to healthcare, particularly in rural areas of low-income countries. Inadequate healthcare infrastructure, lack of skilled birth attendants, and long distances to health facilities can lead to delayed or unattended deliveries, increasing the risk of obstetric fistula. Investments in improving healthcare access, particularly in remote areas, are essential to addressing this issue.

The etiology of genital fistula is multifaceted, with socio-demographic factors playing a significant role in its occurrence. Understanding how age, marital status, education, economic status, cultural practices, and geographic location contribute to the risk of fistula is crucial in developing effective prevention and intervention strategies. To combat this devastating condition, a holistic approach that addresses these socio-demographic determinants and integrates medical care, education, and cultural sensitivities is essential. By focusing on these factors, we can work towards a world where genital fistula is a rare and preventable tragedy rather than a widespread affliction that disproportionately affects women in resource-limited settings.

CONCLUSION:

In conclusion, the role of socio-demographic factors in the etiology of genital fistula is undeniably significant. This devastating medical condition disproportionately affects women and girls in resource-constrained settings, where limited access to quality healthcare, early marriage, and inadequate education prevail. Socio-demographic factors such as age, poverty, low educational attainment, and early marriage play a pivotal role in increasing the vulnerability of women to genital fistula. To effectively combat this condition, it is imperative that comprehensive strategies are implemented, addressing not only the medical aspects but also the underlying socio-demographic determinants. Empowering women, improving healthcare infrastructure, and raising awareness can collectively contribute to reducing the incidence of genital fistula and improving the overall well-being of affected individuals.

REFERENCES:

1. Amin, A. T. M. (2023). N, Alam, SM M, Rakib, MA Observation of Demographic Factors, Labor Characteristics, and Outcomes in Vesicovaginal Fistula. Sch Acad J Biosci, 7, 254-258.
2. Zakiyyu, I. M., Tafida, A. M., Iliya, V., & Rabo, A. A. (2023). RELATIONSHIPS AMONG SOCIAL SUPPORT, COPING STRATEGIES, AGE AND PSYCHOLOGICAL WELLBEING OF VESICOVAGINAL FISTULA PATIENTS AT MURTALA MUHAMMAD SPECIALIST HOSPITAL, KANO, NIGERIA. African Journal of Social and Behavioural Sciences, 13(2).
3. Bigley, R., Barageine, J., Nalubwama, H., Neuhaus, J., Mitchell, A., Miller, S., ... & El Ayadi, A. M. (2023). Factors associated with reintegration trajectory following female genital fistula surgery in Uganda. AJOG Global Reports, 3(4), 100261.
4. Bigley, R., Barageine, J., Nalubwama, H., Neuhaus, J., Mitchell, A., Miller, S., ... & El Ayadi, A. M. (2023). Factors associated with reintegration trajectory following female genital fistula surgery in Uganda. AJOG Global Reports, 3(4), 100261.
5. Hotchkiss, E., Nalubwama, H., Miller, S., Ryan, N., Barageine, J., Byamugisha, J., & El Ayadi, A. M. (2023). Social support among women with genital fistula in Uganda. Culture, Health & Sexuality, 25(3), 320-335.
6. Bulndi, L. B., Bayes, S., Adama, E., & Ireson, D. (2023). North-central Nigerian women's experiences of obstetric Fistula risk factors and their perceived treatment services: an interpretive description. Women and Birth.

7. Traore, T. M., Ouedraogo, S., Kabore, M., Ouedraogo, S., & Traore, J. J. (2023). Characteristics of obstetric urogenital fistulas in a regional teaching hospital in Burkina Faso: a retrospective cross-sectional study. The Pan African Medical Journal, 44.
8. El Ayadi, A. M., Mitchell, A., Nalubwama, H., Miller, S., Semere, W., Barageine, J. K., ... & Byamugisha, J. (2023). The social, economic, emotional, and physical experiences of caregivers for women with female genital fistula in Uganda: A qualitative study. Global Public Health, 18(1), 2242458.
9. El Ayadi, A. M., Obore, S., Kirya, F., Miller, S., Korn, A., Nalubwama, H., ... & Barageine, J. K. (2023). Identifying Opportunities for Prevention of Adverse Outcomes Following Female Genital Fistula Repair: Protocol for a Mixed-Methods Study in Uganda.
10. Kamel, F. R., Ramadan, S., Elbana, H., & Kamal, F. (2023). Pregnant Womens knowledge and Attitude Regarding Obstetric Fistula. Benha Journal of Applied Sciences, 8(4), 257-267.
11. Bulndi, L. B., Ireson, D., Adama, E., & Bayes, S. (2023). Women's views on obstetric fistula risk factors and prevention in north-central Nigeria: an interpretive descriptive study. BMJ open, 13(6), e066923.
12. Ozer, O., Keles, E., Eker, H. H., Baydili, K. N., & Osman, M. M. (2023). Postpartum depressive symptoms in women with female genital mutilation in Somalia. The Journal of Maternal-Fetal & Neonatal Medicine, 36(2), 2256445.
13. Takang, W. A., & Landry, M. M. (2023). Epidemiologic and Therapeutic Aspect of Urogenital Fistula Following Obstetric and Gynecologic Surgeries Repaired at the Nkwen Baptist Hospital. Open Journal of Obstetrics and Gynecology, 13(3), 427-443.
14. Sial, N., Ahmad, M., Hussain, M. S., Iqbal, M. J., Hameed, Y., Khan, M., ... & Asif, H. M. (2021). CTHRC1 expression is a novel shared diagnostic and prognostic biomarker of survival in six different human cancer subtypes. Scientific reports, 11(1), 19873.
15. Agha, A. A., Onalu, C., Nnama-Okechukwu, C., & Ebimgbo, S. (2023). Strengthening Social Support Networks for the Rehabilitation and Reintegration of Obstetric Fistula Patients in South-East, Nigeria. Journal of Social Service Research, 1-12.
16. Ullah, L., Hameed, Y., Ejaz, S., Raashid, A., Iqbal, J., Ullah, I., & Ejaz, S. A. (2020). Detection of novel infiltrating ductal carcinoma-associated BReast CAncer gene 2 mutations which alter the deoxyribonucleic acid-binding ability of BReast CAncer gene 2 protein. Journal of Cancer Research and Therapeutics, 16(6), 1402-1407.
17. Yasir, M., Nawaz, A., Ghazanfar, S., Okla, M. K., Chaudhary, A., Al, W. H., ... & Imran, M. (2022). Anti-bacterial activity of essential oils against multidrug-resistant foodborne pathogens isolated from raw milk. Brazilian Journal of Biology, 84, e259449.
18. Sial, N., Rehman, J. U., Saeed, S., Ahmad, M., Hameed, Y., Atif, M., ... & Ambreen, A. (2022). Integrative analysis reveals methylenetetrahydrofolate dehydrogenase 1-like as an independent shared diagnostic and prognostic biomarker in five different human cancers. Bioscience Reports, 42(1), BSR20211783.
19. Yakubu, E. N., Obuna, J. A., Ekwedigwe, K. C., Daniyan, A. B. C., Uro-Chukwu, H. C., Mbamalu, S. O., ... & Aja, D. (2023). Profile and Outcome of Obstetric Fistula Surgeries in a Fistula Care Centre in South-East Nigeria. Advances in Clinical Medical Research, 4(1), 12-16.
20. García, J. C., Ríos-Pena, L., Rodríguez, M. C. R., Maraver, F. M., & Jiménez, I. R. (2023). Development and internal validation of a multivariable prediction model for the quality of life of cervical cancer survivors. Journal of Obstetrics and Gynaecology Research.
21. García, J. C., Ríos-Pena, L., Rodríguez, M. C. R., Maraver, F. M., & Jiménez, I. R. (2023). Development and internal validation of a multivariable prediction model for the quality of life of cervical cancer survivors. The Journal of Obstetrics and Gynaecology Research.
22. Yakubu, E. N., Obuna, J. A., Ekwedigwe, K. C., Daniyan, A. B. C., Uro-Chukwu, H. C., Mbamalu, S. O., ... & Aja, D. (2023). Profile and Outcome of Obstetric Fistula Surgeries in a Fistula Care Centre in South-East Nigeria. Advances in Clinical Medical Research, 4(1), 12-16.

23. García, J. C., Ríos-Pena, L., Rodríguez, M. C. R., Maraver, F. M., & Jiménez, I. R. (2023). Development and internal validation of a multivariable prediction model for the quality of life of cervical cancer survivors. Journal of Obstetrics and Gynaecology Research.
24. Tweneboah, R., Budu, E., Asiam, P. D., Aguadze, S., & Acheampong, F. (2023). Awareness of obstetric fistula and its associated factors among reproductive-aged women: Demographic and health survey data from Gambia. Plos one, 18(4), e0283666.
25. Amutaigwe, C. E. (2023). The Effects of Vesico-Vaginal Fistula in the Lives of Women in Southeastern Nigeria (Doctoral dissertation, Walden University).