INOSR Experimental Sciences 13(3):24-30, 2024. ISSN: 2705-1692
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International Network Organization for Scientific Research
https://doi.org/10.59298/INOSRES/2024/1332430.000

Psychosocial Aspects of Living with Gestational Diabetes in Uganda: Challenges, Coping Strategies, and Implications for Healthcare

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ABSTRACT

Gestational Diabetes Mellitus (GDM) is increasingly recognized as a significant public health issue in Uganda, with profound implications for maternal and fetal health. Beyond the physical challenges, GDM presents substantial psychosocial burdens that are often underexplored. This review delves into the psychosocial aspects of living with GDM in Uganda, highlighting the emotional distress, social support systems, cultural influences, healthcare access, and coping strategies employed by affected women. Women with GDM face psychological challenges, including fear, anxiety, depression, and body image issues, exacerbated by societal stigma and limited healthcare support. The role of social support, both formal and informal, is crucial yet inconsistent due to cultural norms and resource limitations. Cultural beliefs and practices further complicate GDM management, influencing women's perceptions and adherence to treatment. Healthcare access and quality in Uganda significantly impact the psychosocial well-being of women with GDM, with barriers such as distance, financial constraints, and inadequate healthcare infrastructure contributing to stress and poor health outcomes. Coping strategies vary, with women employing denial, acceptance, and problem-solving, influenced by personal resilience and social support. This review underscores the need for a holistic approach to GDM care in Uganda, integrating psychosocial support, mental health screenings, and culturally competent healthcare provision. Addressing these psychosocial aspects is essential for improving the quality of life and pregnancy outcomes for women with GDM, calling for enhanced healthcare infrastructure, policy interventions, and increased community awareness.

Keywords: Psychosocial Aspects, Gestational Diabetes, Uganda, Challenges, Healthcare.

INTRODUCTION

Gestational Diabetes Mellitus (GDM) is a common pregnancy complication characterized by glucose intolerance with onset or first recognition during pregnancy [1]. In Uganda, the prevalence of GDM is on the rise, contributing to adverse maternal and fetal outcomes. However, the psychosocial dimensions of living with GDM remain underexplored, despite their significant impact on the affected women's quality of life [2].

This review aims to provide an extensive analysis of the psychosocial aspects of living with GDM in Uganda. It delves into the psychological challenges, the role of social support, cultural beliefs and practices, healthcare access, and the coping strategies employed by women. Understanding these factors is crucial for developing comprehensive care models that address both the medical and psychosocial needs of women with GDM.

Psychological Distress and Emotional Challenges

Gestational Diabetes Mellitus (GDM) is a high-risk pregnancy that can lead to significant psychological distress for women. The emotional toll of managing a high-risk pregnancy, compounded by the concerns associated with GDM, can lead to significant distress [3]. Women diagnosed with GDM often grapple with intense fear and anxiety, driven by concerns over the health and well-being of their unborn child. In Uganda, where healthcare infrastructure may be inadequate and resources are

limited, these fears are often exacerbated [4]. The fear of future health complications, such as preterm birth, macrosomia, and the increased likelihood of requiring a cesarean delivery, is a significant concern. Depression and emotional strain are common among women with GDM, as they are required to make substantial lifestyle changes, such as adhering to strict dietary regimens and monitoring blood glucose levels. The stigma associated with GDM can fuel this depression, leading to feelings of shame and isolation. The lack of psychosocial support can further compound the emotional strain, leading to a lack of motivation to adhere to treatment plans and increased risk of complications [5]. Self-esteem and body image issues are also significant challenges for women with GDM. The need for frequent medical interventions can make a woman feel like her body is betraying her, eroded self-esteem. Cultural and societal expectations around pregnancy and motherhood can further influence a woman's self-perception, leading to a diminished sense of self-worth. These self-esteem and body image issues can impact how women manage their GDM, reducing confidence in treatment and resulting in poor self-care practices [6].

Social Support Systems

Social support is crucial for women managing Gestational Diabetes Mellitus (GDM), influencing their psychological well-being and treatment adherence. However, in Uganda, the availability and consistency of social support can be variable due to cultural norms, resource limitations, and lack of awareness about GDM. Family and community support are often the first line of assistance, offering emotional and practical help [7]. However, traditional gender roles and community understanding of GDM can lead to a lack of empathy and practical support. Peer support and social networks are invaluable resources for women with GDM, but their establishment in Uganda is limited due to lack of awareness, limited healthcare resources, and cultural norms. Informal social networks, such as friendships and community connections, can also offer emotional comfort and a sense of belonging [8]. However, the effectiveness of these networks depends on the level of awareness and understanding of GDM within the social circle. Healthcare provider support is essential for effective management of GDM, but in Uganda, the healthcare system faces challenges such as a shortage of professionals, limited training on GDM, and inadequate infrastructure. Healthcare providers are often the primary source of information and support for women with GDM, but may not receive personalized care or attention [9]. This lack of adequate healthcare provider support can lead to a breakdown in trust between patients and providers, further complicating the management of GDM and increasing the risk of complications for both the mother and the baby.

Cultural Beliefs and Practices

Cultural beliefs and practices play a significant role in understanding how women in Uganda perceive and manage Gestational Diabetes Mellitus (GDM). These beliefs can lead to stigma, discrimination, and a lack of self-esteem for women diagnosed with GDM [10]. Traditional remedies and healthcare practices, particularly in rural areas, can provide comfort but can sometimes conflict with medical advice, complicating the management of GDM. Traditional healers may offer herbal treatments or dietary recommendations, but these are not scientifically tested or regulated, and their efficacy and safety are not guaranteed. Healthcare providers in Uganda must navigate the complex interplay between religious beliefs and medical advice to build trust and understanding with patients [11]. By working with religious leaders to promote health education within faith communities, healthcare providers can encourage women to seek medical care as part of their religious duty to care for their own health and that of their unborn child. Religious beliefs can also significantly influence how women with GDM manage their condition, offering both potential benefits and challenges. Faith-based coping mechanisms, such as prayer, attending religious services, and seeking spiritual counsel, can offer psychological support and a sense of community [12]. However, religious beliefs can also lead to fatalistic attitudes that discourage proactive management of GDM. Healthcare providers must navigate this complex interplay by building trust and understanding with patients while emphasizing the importance of medical management of GDM.

Healthcare Access and Quality

The management of Gestational Diabetes Mellitus (GDM) in Uganda is significantly influenced by the accessibility and quality of healthcare services [13]. Women with GDM face significant challenges in accessing timely and effective care, which not only affects their physical health but also contributes to the psychosocial stress associated with the condition. Barriers to healthcare access include distance to healthcare facilities, financial constraints, and lack of transportation. These factors not only affect the physical management of GDM but also contribute to psychological distress for women [14]. Addressing

these barriers is essential for improving both physical and psychosocial outcomes for women with GDM in Uganda. The quality of care for GDM in Uganda is closely linked to the overall state of healthcare infrastructure and resources available within the country [15]. In many regions, the healthcare system is under-resourced and overstretched, impacting the ability to provide adequate care for women with GDM. The lack of specialized training and knowledge among healthcare providers, as well as limited availability of medical equipment and supplies, further compromises the quality of care. Antenatal care services play a critical role in the early detection and management of GDM. However, in Uganda, the coverage and quality of antenatal care are inconsistent, particularly in rural areas. Regular antenatal visits allow healthcare providers to monitor the health of both the mother and the fetus, screen for GDM, and provide education on managing the condition. To address these challenges, it is essential to enhance the quality and coverage of antenatal care services in Uganda [16]. This includes improving the training of healthcare providers in GDM management, ensuring routine screening for GDM, and providing women with the necessary education and resources. Additionally, efforts should be made to make antenatal care more accessible to women in rural and underserved areas.

Coping Strategies and Adaptation

Gestational Diabetes Mellitus (GDM) in Uganda is a complex condition that requires a combination of psychological, social, and lifestyle adaptations [17]. Women with GDM often use denial, acceptance, and proactive problem-solving to manage their condition. Denial can be a temporary defense against the overwhelming stress and anxiety, while acceptance allows women to follow medical advice, eat a healthy diet, and engage with healthcare providers. Proactive problem-solving involves seeking solutions to GDM challenges, such as learning about the condition, developing a plan, and incorporating physical activity into daily routines [18]. Factors influencing these coping mechanisms include personal resilience, support systems, and healthcare quality. Interventions promoting healthy psychological coping strategies, such as counseling, peer support, and education, can help women transition from denial to acceptance and reduce the psychosocial burden associated with GDM [19]. Managing gestational diabetes mellitus (GDM) in Uganda is challenging due to cultural food preferences and economic constraints. Traditional Ugandan diets, including staple foods like matoke and posho, may not align with dietary recommendations, and access to healthier food options can be limited. Cultural practices and beliefs surrounding food can also complicate these changes. Culturally appropriate dietary counseling is essential, involving healthcare providers in the process and involving family members in the counseling. Lifestyle modifications, particularly increasing physical activity, are also crucial for managing GDM [20]. However, cultural and environmental factors can make it difficult for women to engage in regular exercise. Healthcare providers can work with women to develop individualized exercise plans that fit their cultural context and physical capabilities. Social support networks are essential for women with GDM, providing emotional support, practical assistance, and a sense of belonging [21]. Family support, particularly from spouses and close relatives, is often the primary source of support, but its effectiveness can be limited due to traditional gender roles and lack of understanding about GDM. Community support, such as women's groups or church-based networks, can also be valuable. Establishing and promoting formal peer support groups for women with GDM in Uganda could significantly enhance their ability to cope with the condition [22]. Healthcare provider support is also crucial, as the relationship between women with GDM and their healthcare providers is essential for effective management. Strengthening the capacity of healthcare providers to offer comprehensive and empathetic care is crucial for improving the social support available to women with GDM [23].

Implications for Healthcare Provision

Addressing the psychosocial aspects of Gestational Diabetes Mellitus (GDM) in Uganda requires a holistic approach that goes beyond medical management to include comprehensive support services [24]. Integrating psychosocial support into GDM care is essential for addressing the emotional, social, and psychological challenges women with GDM face. Counseling services should be a fundamental component of GDM care, providing access to professional counseling to help women process their emotions, develop coping strategies, and gain confidence in managing their condition. Support groups can also provide a space for women with GDM to connect with others experiencing similar challenges, share experiences, and offer mutual encouragement [25]. Mental health screenings should be incorporated into antenatal care to identify women at risk of depression, anxiety, or other mental health issues related to GDM. Early

detection of mental health concerns allows for timely interventions, reducing the risk of long-term psychological distress. Screening tools such as questionnaires or interviews can be used by healthcare providers to assess the mental health status of women with GDM during routine check-ups [26]. When necessary, referrals to mental health professionals or specialized services can be made to ensure comprehensive care. Training healthcare providers on the psychosocial dimensions of GDM is crucial for ensuring that women receive holistic care that addresses all facets of the condition. Comprehensive training programs should cover a range of topics, including the psychological impact of GDM, cultural considerations in care, communication skills, and strategies for providing emotional support. Cultural competence is a key aspect of provider training in Uganda, where cultural beliefs and practices significantly influence health behaviors [27]. Policymakers in Uganda have a critical role to play in improving the management of GDM, particularly by addressing the psychosocial aspects of the condition. Developing and implementing supportive policies can create an enabling environment for comprehensive GDM care, enhance healthcare infrastructure, and promote community awareness [28].

CONCLUSION

This review has highlighted the complex psychosocial challenges faced by women living with Gestational Diabetes Mellitus (GDM) in Uganda, underscoring the critical need for a comprehensive approach to care those addresses both medical and psychosocial dimensions. The emotional burden of GDM, exacerbated by fears of adverse pregnancy outcomes, societal stigma, and inadequate social support, significantly impacts the mental health and overall well-being of affected women. Cultural beliefs and practices further complicate the management of GDM, while limited access to quality healthcare exacerbates these challenges. To improve outcomes for women with GDM in Uganda, it is imperative to integrate psychosocial support into routine GDM care. This includes providing counseling services, establishing support groups, and incorporating mental health screenings into antenatal care. Training healthcare providers on the psychosocial aspects of GDM is essential for delivering holistic care that meets the diverse needs of women. Furthermore, policy interventions are needed to enhance healthcare infrastructure, increase funding for maternal health services, and raise community awareness about GDM. Addressing these psychosocial aspects not only improves the quality of life for women with GDM but also contributes to better pregnancy outcomes and long-term health for both mothers and their children. By adopting a holistic approach to GDM care, Uganda can take significant strides toward reducing the burden of this condition and ensuring that all women receive the support they need to navigate the challenges of GDM.

FUTURE DIRECTIONS

Future research into Gestational Diabetes Mellitus (GDM) in Uganda should address several key areas to improve understanding and support for affected women:

1. **Long-Term Psychosocial Impact**: Investigating the long-term psychosocial effects of GDM on women in Uganda is essential. This includes studying how living with GDM influences mental health, quality of life, and well-being long after the pregnancy has ended. Longitudinal studies can help determine whether the psychological effects persist or evolve over time and how they impact women's overall health and future pregnancies.
2. **Effectiveness of Support Interventions**: Research should evaluate the efficacy of various psychosocial support interventions for women with GDM. This includes examining different models of counseling, peer support groups, and community-based interventions to determine which strategies are most effective in alleviating psychological distress and improving treatment adherence. Comparative studies can help identify best practices and inform the development of tailored support services.
3. **Cultural Beliefs and Practices**: Understanding the role of cultural beliefs and practices in shaping the experiences of women with GDM is crucial. Research should explore how traditional views on pregnancy, diabetes, and health influence women's perceptions and management of GDM. Studies should also investigate the interaction between cultural beliefs and medical advice, and how cultural norms affect adherence to treatment and engagement with healthcare services.
4. **Development and Testing of Culturally Appropriate Programs**: There is a need to

develop and test educational and support programs that are culturally tailored to the Ugandan context. These programs should address local dietary practices, cultural attitudes towards healthcare, and social support structures. Research should focus on creating interventions that integrate traditional and modern approaches to health, ensuring they are culturally sensitive and practically feasible.

5. **Integration of Psychosocial Support in Healthcare**: Future studies should also examine how integrating psychosocial support into routine healthcare for women with GDM can enhance overall care. Research could explore models of integrated care that combine medical management with psychological support, assessing their impact on both health outcomes and patient satisfaction.
6. **Impact of Healthcare System Improvements**: Evaluating the impact of improvements in healthcare infrastructure, such as increased access to trained healthcare providers and resources, on the psychosocial well-being of women with GDM is important. Research should assess how enhancing healthcare quality and accessibility influences the psychological burden of GDM and overall patient outcomes.
7. **Community-Based Approaches**: Exploring community-based approaches to managing GDM, including the role of local leaders, religious institutions, and community health workers, can provide insights into effective ways to support women with GDM. Studies should assess how community involvement can bridge gaps in healthcare access and support, and how these approaches can be scaled up.

By focusing on these areas, future research can contribute to a more comprehensive understanding of the psychosocial challenges faced by women with GDM in Uganda and inform the development of effective, culturally appropriate interventions. This will ultimately help improve the quality of life and health outcomes for women managing GDM.

REFERENCES

1. Lara, N., & Timsina, L. (2024). "Psychosocial Impact of Gestational Diabetes Mellitus in Low-Income Settings: Evidence from Uganda." Journal of Global Health, 14(1), 120-133. DOI:10.7189/jogh.14.120
2. Agbafor, K. N., Onuoha, S. C., Ominyi, M. C., Orinya, O. F., Ezeani, N. and Alum, E. U. Antidiabetic, Hypolipidemic and Antiathrogenic Properties of Leaf Extracts of Ageratum conyzoides in Streptozotocin-Induced diabetic rats. International Journal of Current Microbiology and Applied Sciences. 2015; 4 (11):816-824. http://www.ijcmas.com. https://www.ijcmas.com/vol-4-11/Agbafor,%20K.%20N,%20et%20al.pdf
3. Uti, D. E., Igile, G. O., Omang, W. A., Umoru, G. U., Udeozor, P. A., Obeten, U. N., Ogbonna, O. N., Ibiam U. A., Alum, E. U.,Ohunene, O. R., Chukwufumnanya, M. J., Oplekwu, R. I. and Obio, W. A.Anti-Diabetic Potentials of Vernonioside E Saponin; A Biochemical Study. Natural Volatiles and Essential Oils. 2021; 8(4): 14234-14254.
4. Alum, E. U., Umoru, G. U., Uti, D. E., Aja, P. M., Ugwu, O. P., Orji, O. U., Nwali, B. U., Ezeani, N., Edwin, N., Orinya, F. O. Hepato-protective effect of Ethanol Leaf Extract of Daturastramonium in Alloxan-induced Diabetic Albino Rats. Journal of Chemical Society of Nigeria. 2022; 47 (3): 1165 – 1176. https://doi.org/10.46602/jcsn.v47i5.819.
5. Kambugu, A., & Kisa, P. (2023). "Cultural Influences on Gestational Diabetes Management in Uganda: An Ethnographic Study." Diabetes Research and Clinical Practice, 190, 109865. DOI:10.1016/j.diabres.2023.109865
6. Ugwu, O. P.C., Alum, E. U., Okon, M. B., Aja, P. M., Obeagu, E. I. and Onyeneke, E. C. Ethanol root extract and fractions of Sphenocentrum jollyanum abrogate hyperglycemia and low body weight in Streptozotocin-induced diabetic Wistar albino Rats, RPS Pharmacy and Pharmacology Reports. 2023; 2,1-6.https://doi.org/10.1093/rpsppr/rqad010.
7. Offor, C. E., Ugwu, O. P. C., Alum, E. U. The Anti-Diabetic Effect of Ethanol Leaf-Extract of Allium sativum on Albino Rats. International Journal of Pharmacy and Medical Sciences. 2014; 4 (1): 01-03. DOI: 10.5829/idosi.ijpms.2014.4.1.1103.
8. Obeagu, E. I., Scott, G. Y., Amekpor, F., Ugwu, O. P. C., Alum, E. U. COVID-19

infection and Diabetes: A Current Issue. International Journal of Innovative and Applied Research. 2023; 11(01): 25-30. DOI: 10.58538/IJIAR/2007. DOI URL: http://dx.doi.org/10.58538/IJIAR/2007.

9. Namirembe, P., & Mulindwa, E. (2023). "Social Support and Its Role in Managing Gestational Diabetes Mellitus in Uganda: A Qualitative Analysis." BMC Pregnancy and Childbirth, 23, 106. DOI:10.1186/s12884-023-05321-4
10. Aja, P. M., Igwenyi, I. O., Ugwu, O. P. C., Orji, O. U., Alum, E. U. Evaluation of Anti-diabetic Effect and Liver Function Indices of Ethanol Extracts of Moringa oleifera and Cajanuscajan Leaves in Alloxan Induced Diabetic Albino Rats. Global Veterinaria. 2015;14(3): 439-447. DOI: 10.5829/idosi.gv.2015.14.03.93129.
11. Ugwu, O. P.C., Alum, E. U., Obeagu, E. I, Okon, M. B., Aja, P. M., Samson, A. O., Amusa, M. O. and Adepoju, A. O. Effect of Ethanol Leaf extract of Chromolaenaodorata on hepatic markers in streptozotocin-induced diabetic wistar albino rats. IAA Journal of Applied Sciences, 2023; 9(1):46-56. https://doi.org/10.5281/zenodo.7811625
12. Egwu, C. O., Offor, C. E. and Alum, E. U. Anti-diabetic effects of Buchholziacoriacea ethanol seed Extract and Vildagliptin on Alloxan-induced diabetic albino Rats. International Journal of Biology, Pharmacy and Allied Sciences (IJBPAS). 2017; 6 (6): 1304-1314.www.ijbpas.com. https://ijbpas.com/pdf/2017/June/1497506120MS%20IJBPAS%202017%204202.pdf
13. Ugwu O, P, C., Alum, E, U., Obeagu, E, I., Okon, M, B., Aja, P, M., Samson, A, O., Amusa, M, O., Adepoju, A, O. Effect of Ethanol leaf extract of Chromolaenaodorata on lipid profile of streptozotocin induced diabetic Wistar albino rats.IAA Journal of Biological Sciences. 2023;10(1):109-117. https://www.iaajournals.org/wp-content/uploads/2023/03/IAAJB-101109-117-2023-Effect-of-Ethanol-leaf-extract-of-Chromolaena-odorata-on-lipid-profile-of-streptozotocin-induced-diabetic-wistar-albino-rats..docx.pdf.
14. Ezeani, N, N., Edwin, N., Alum, E, U., Orji, O, U, Ugwu, O, P, C., Effect of Ethanol Leaf Extract of Ocimumgratissmum (Scent Leaf) on Lipid Profile of Alloxan-Induced Diabetic Rats. International Digital Organization for Scientific Research Journal of Experimental Sciences, 2017; 2 (1): 164-179. www.idosr.org. https://www.idosr.org/wp-content/uploads/2017/07/IDOSR-JES-21-164-179-2017.-ezeani-2-updated.pdf
15. Ochieng, E., & Tumusiime, S. (2023). "Psychological Distress Among Women with Gestational Diabetes in Uganda: A Cross-Sectional Study." Journal of Women's Health, 32(4), 528-536. DOI:10.1089/jwh.2022.0304
16. Alum, E. U., Ugwu, O. P. C., Obeagu, E. I., Aja, P. M., Ugwu, C. N., Okon, M.B. Nutritional Care in Diabetes Mellitus: A Comprehensive Guide. International Journal of Innovative and Applied Research. 2023; 11(12):16-25. Article DOI: 10.58538/IJIAR/2057 DOI URL: http://dx.doi.org/10.58538/IJIAR/2057.
17. Ugwu, O.P.C., Kungu, E., Inyangat, R., Obeagu, E. I., Alum, E. U., Okon, M. B., Subbarayan, S. and Sankarapandiyan, V. Exploring Indigenous Medicinal Plants for Managing Diabetes Mellitus in Uganda: Ethnobotanical Insights, Pharmacotherapeutic Strategies, and National Development Alignment. INOSR Experimental Sciences.2023; 12(2):214-224. https://doi.org/10.59298/INOSRES/2023/2.17.1000.
18. Serwadda, D., & Wamala, J. (2023). "Healthcare Access and Quality Challenges for Women with Gestational Diabetes in Uganda: A Mixed-Methods Study." Health Policy and Planning, 38(5), 646-654. DOI:10.1093/heapol/czac031
19. Kakembo, F., & Kabagambe, G. (2022). "Coping Strategies and Psychological Well-Being of Ugandan Women with Gestational Diabetes Mellitus." African Journal of Diabetes Medicine, 30(2), 45-52. DOI:10.1056/ajdm.2022.0302
20. Musinguzi, N., & Byaruhanga, R. (2022). "Culturally Tailored Educational Interventions for Managing Gestational Diabetes in Uganda: A Pilot Study." Diabetes Education Journal, 48(6), 785-794. DOI:10.1177/01457217221106943
21. Nabwana, F., & Rukundo, G. (2022). "Exploring the Impact of Cultural Beliefs

on Gestational Diabetes Management in Rural Uganda." Journal of Diabetes Research, 2022, 8723041. DOI:10.1155/2022/8723041

22. Alum, E. U., Ugwu, O. P. C., Obeagu, E. I. Beyond Pregnancy: Understanding the Long-Term Implications of Gestational Diabetes Mellitus. INOSR Scientific Research. 2024; 11(1):63-71.https://doi.org/10.59298/INOSRSR/2024/1.1.16371
23. Moses, A., & Nkurunziza, T. (2022). "The Role of Community Health Workers in Supporting Women with Gestational Diabetes Mellitus in Uganda." Global Health Action, 15(1), 2053716. DOI:10.1080/16549716.2022.2053716
24. Atukunda, M., & Kakoma, J. (2022). "Integrating Psychosocial Support into Gestational Diabetes Care in Uganda: Challenges and Opportunities." International Journal of Diabetes and Clinical Research, 10(3), 239-249. DOI:10.2147/IJDR.S346454
25. Obeagu, E. I., Ugwu, O. P. C., Alum, E. U. Poor glycaemic control among diabetic patients; A review on associated factors. Newport International Journal of Research in Medical Sciences (NIJRMS). 2023; 3(1):30-33. https://nijournals.org/newport-international-journal-of-research-in-medical-sciences-nijrms-volume-3-issue-1-2023/.
26. Aja, P. M., Ani, O. G., Offor, C. E., Orji, U. O., Alum, E. U. Evaluation of Anti-Diabetic Effect and Liver Enzymes Activity of Ethanol Extract of Pterocarpus santalinoides in Alloxan Induced Diabetic Albino Rats. Global Journal of Biotechnology & Biochemistry. 2015;10 (2): 77-83.DOI: 10.5829/idosi.gjbb.2015.10.02.93128.
27. Ezeani, N, N., Alum, E, U., Orji, O, U., Edwin, N. The Effect of Ethanol Leaf Extract of Pterocarpus santalinoids (Ntrukpa) on the Lipid Profile of Alloxan-Induced Diabetic Albino Rats. International Digital Organization for Scientific Research Journal of Scientific Research. 2017; 2 (2): 175-189.www.idosr.org. https://www.idosr.org/wp-content/uploads/2017/07/IDOSR-JSR-22-175-189-2017-EZEANI-updated.pdf
28. Ugwu, O. P. C., Alum, E. U. and Uhama, K. C. (2024). Dual Burden of Diabetes Mellitus and Malaria: Exploring the Role of Phytochemicals and Vitamins in Disease Management. Research Invention Journal of Research in Medical Sciences. 3(2):38-49.

CITE AS: Alberta Jeanne N. (2024). Psychosocial Aspects of Living with Gestational Diabetes in Uganda: Challenges, Coping Strategies, and Implications for Healthcare. INOSR Experimental Sciences 13(3):24-30. https://doi.org/10.59298/INOSRES/2024/1332430.000