



Community Education on Clean and Healthy Living Behavior (CHLB) Due to Urinary Tract Infections (UTIs) in Pregnant Women

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ABSTRACT

The implementation of Clean and Healthy Living Behavior (CHLB) plays a crucial role in maintaining the health of pregnant women, particularly in preventing Urinary Tract Infections (UTIs), which can become a serious issue during pregnancy. UTIs may increase the risk of complications such as preterm labor or low birth weight. Data collected from pre-test and post-test assessments indicate a significant increase in knowledge, with initial scores at just 20%, rising to 68% after intervention. Therefore, the implementation of CHLB is essential, encompassing simple habits like regular hand washing with soap, maintaining genital hygiene, and consuming sufficient water to increase urine volume, thereby reducing the risk of UTIs. Additionally, it is important for pregnant women to avoid contracting sexually transmitted infections (STIs), which can increase the risk of UTIs. By effectively practicing CHLB, pregnant women can lower the likelihood of developing UTIs, maintain their own health as well as that of their unborn child, and ensure a smooth pregnancy and delivery process

INTRODUCTION

Urinary tract infections (UTIs) are a common health issue experienced by pregnant women. Pregnancy induces physical and hormonal changes that can increase the risk of developing UTIs. If not properly managed, UTIs in pregnant women can lead to serious complications, such as preterm birth and low birth weight. Therefore, the implementation of Clean and Healthy Living Behavior (CHLB) is crucial in preventing and managing UTIs during pregnancy (L. Sholihah, 2016). CHLB involves empowering individuals and communities to maintain and improve health through simple yet effective practices. In the context of pregnancy, CHLB encompasses several aspects, such as personal hygiene, healthy eating habits, safe physical activity, and regular prenatal check-ups (Nurmala & KM, 2020).

Pregnant women in households that practice CHLB are less likely to experience conditions that exacerbate maternal mortality. Pregnant women are a vulnerable group and require a family or household environment that upholds clean and healthy living behaviors. However, CHLB practices among pregnant women and those who have been pregnant remain low, as observed across different provinces, economic levels, and educational backgrounds. Unhealthy behaviors, such as smoking, alcohol consumption, and dietary changes, can increase the risk of UTIs. These unhealthy behaviors are not isolated issues; they are often rooted in underlying causes such as poverty, including the lack of knowledge among pregnant women and their families about how to maintain a healthy pregnancy, leading to unhealthy behaviors (Astuti et al., 2011; Subair & Haris, 2024).

This study focuses on educating the public about the importance of Clean and Healthy Living Behavior (CHLB) in preventing Urinary Tract Infections (UTIs) among pregnant women. It is highly relevant and strategic, aiming to appreciate and strengthen the role of midwives as key pillars in maternal and child health, while also enhancing collaboration among healthcare professionals, academics, and the community in improving the overall health quality of pregnant women. Anchored in laws, ministerial regulations, and national programs, this research offers tangible benefits for the health of pregnant women and the broader community, while also reinforcing collaboration in efforts to enhance overall health quality.

LITERATURE REVIEW

Urinary Tract Infections (UTIs) in Pregnant Women

A pregnant woman is a term used to refer to a woman who is carrying a fetus. During pregnancy, a woman carries the fetus in her uterus for approximately 40 weeks, from conception until birth. Pregnancy is divided into three trimesters, each marked by different developments and changes in both the fetus and the mother's body.

Urinary Tract Infections (UTIs) are among the most common infections that occur in pregnant women. This is due to physiological changes during pregnancy that affect the urinary tract, thereby increasing the risk of infection. UTIs in pregnant women can have serious consequences if not properly

managed, including the risk of preterm birth and other complications (A. H. Sholihah, 2017).

Infections can occur through hematogenous spread or ascending pathways, with several predisposing factors including urinary obstruction, structural abnormalities, urolithiasis, foreign bodies, or urinary reflux. The bladder mucosa is lined with a glycoprotein mucin layer that acts as an antibacterial barrier. Damage to this layer allows bacteria to adhere, colonize the mucosal surface, penetrate the urinary tract epithelium, and cause inflammation. Bacteria from the bladder can ascend through the ureters to the kidneys via thin films of fluid, especially if vesicoureteral or intrarenal reflux is present. When only the bladder is infected, it can cause irritation and spasms of the smooth muscle of the urinary bladder, leading to clinical symptoms such as persistent urge to urinate (urgency), frequent urination (frequency), or pain and discomfort during urination (dysuria). If left untreated, the bladder mucosa may become edematous and inflamed, eventually leading to bleeding, and the passage of urine may result in hematuria. (Liastra, 2020).

The symptoms of a Urinary Tract Infection (UTI) in pregnant women can vary, but common ones include:

- a) Pain or burning sensation during urination (dysuria): This is one of the most common symptoms of a UTI.
- b) Frequent urination (increased frequency): Pregnant women may feel the need to urinate more often than usual.
- c) Urgency: A sudden and strong urge to urinate, even when the bladder is not full.
- d) Cloudy or foul-smelling urine: Changes in the color and odor of urine can be a sign of a UTI.
- e) Pain in the lower abdomen or back: This may indicate a more serious infection or one that has spread to the kidneys.
- f) Fever: A fever can occur if the infection has spread to the kidneys or has become more severe.
- g) Blood in the urine: The presence of blood in the urine can occur with a UTI.
- h) Fatigue: Unusual tiredness can also be a symptom of a UTI. (Darsono et al., 2016).

Clean and Healthy Living Behavior (CHLB)

Clean and Healthy Living Behavior (CHLB) encompasses health practices carried out with personal awareness, allowing family members or the community to manage their own health and actively participate in community health activities. CHLB includes various aspects of daily life that can impact individual and community health.

The goals of CHLB are to create a healthy and productive community through the implementation of clean and healthy practices in daily life, including:

- a) **Improving Quality of Life:** Enhancing overall health, comfort, and productivity.
- b) **Preventing Both Communicable and Non-Communicable Diseases:** Achieving this through healthy behaviors.

- c) **Raising Public Awareness:** Emphasizing the importance of maintaining cleanliness and health in daily life.
- d) **Promoting Community Self-Reliance:** Encouraging individuals to independently maintain their own health and that of their families..

Through CHLB, it is hoped that each individual and family will be able to recognize, prevent, and address health issues early. Additionally, CHLB serves as a foundation for communities to build clean and healthy environments, supporting collective well-being. CHLB emphasizes the importance of handwashing with soap, using clean water, maintaining environmental cleanliness, consuming nutritious food, and engaging in regular physical activity. By adhering to these practices, communities can enhance their overall health and improve their resilience (Susilowati & Susilowati, 2016).

The implementation of CHLB is expected to foster a collective awareness of the importance of health as a valuable asset. Through clean and healthy living behaviors, individuals not only protect themselves but also contribute to creating a healthy and harmonious environment. CHLB encourages every individual to actively participate in maintaining cleanliness and health, thereby promoting a healthy, prosperous, and high-quality community. With consistent adherence to CHLB practices, it is anticipated that communities will enjoy a healthier and more productive life, free from disease threats, and achieve overall well-being (Rahayu et al., 2019).

According to (Natsir, 2019) CHLB encompasses five settings:

- a) **Households:** This includes healthy practices carried out at the family level.
- b) **Schools:** CHLB in schools teaches students to adopt healthy habits from an early age.
- c) **Workplaces:** Implementing CHLB in the workplace to create a healthy work environment.
- d) **Public Places:** CHLB in public areas such as markets, terminals, and tourist sites to prevent disease spread.
- e) **Health Facilities:** Providing facilities that support clean and healthy living behaviors within healthcare services.

Indicators of CHLB at the household level include various aspects reflecting cleanliness and health in daily life, as outlined by (Nasution, 2020) :

- a) **Childbirth assisted by trained healthcare personnel:** Ensures a safe delivery.
- b) **Exclusive breastfeeding:** Providing breast milk to the baby from birth up to 6 months.
- c) **Regular weighing of infants and toddlers:** To monitor their growth effectively.
- d) **Handwashing with soap:** Especially before eating, after defecation, and after activities that may spread germs.
- e) **Using clean and safe water.**
- f) **Utilizing healthy sanitation facilities:** To prevent the spread of diseases.
- g) **Proper waste disposal:** To keep the environment clean and comfortable.
- h) **Preventing and addressing mosquito breeding sites:** To avoid diseases such as dengue fever.

- i) **No smoking indoors:** To prevent the negative impact of tobacco smoke on other family members.
- j) **Consuming a balanced and nutritious diet.**
- k) **Regular physical activity:** Engaging in exercise to maintain physical fitness
- l) **Routine health check-ups:** For early disease detection.
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The Relationship Between Clean and Healthy Living Behavior (CHLB) and Urinary Tract Infections (UTIs) in Pregnant Women

Clean and Healthy Living Behavior (CHLB) plays a crucial role in maintaining the health of pregnant women, particularly in preventing Urinary Tract Infections (UTIs). According to (Yuliani et al., 2021) UTIs can become a serious issue during pregnancy as they can increase the risk of complications such as preterm labor or low birth weight. Therefore, the implementation of CHLB is essential. CHLB includes simple habits such as regular handwashing with soap, maintaining genital hygiene, and consuming sufficient water to increase urine volume, thereby reducing the risk of UTIs. Additionally, it is important for pregnant women to avoid sexually transmitted infections, which can further increase the risk of UTIs. By effectively practicing CHLB, pregnant women can reduce the likelihood of UTIs, maintain their own health and that of their fetus, and ensure a smooth pregnancy and delivery process (Mulati et al., 2015).

There are additional important considerations for maintaining Clean and Healthy Living Behavior (CHLB) in pregnant women regarding UTIs. One key aspect is to avoid delaying urination for prolonged periods, as this can allow bacteria to proliferate in the urinary tract. Additionally, choosing clean, cotton underwear can help maintain genital hygiene and prevent bacterial spread. It is also important to avoid using hygiene products that contain harsh chemicals, as these can disrupt the natural bacterial balance in the genital area and increase the risk of infection. Besides maintaining physical cleanliness, a healthy and nutritious diet is crucial for strengthening the pregnant woman's immune system against infections, including UTIs. By addressing all these factors, pregnant women can minimize the risk of UTIs and ensure a smooth pregnancy and delivery process (Mustari et al., 2022).

Pregnant women who experience urinary tract infections (UTIs) can take clean and healthy living measures to help reduce the risk of infection and maintain their own health as well as that of their unborn baby by paying attention to the following: (Badawi et al., 2023) :

- a) **Drink Plenty of Water:** Water helps flush bacteria from the urinary tract, so it is important for pregnant women to drink ample water each day.
- b) **Proper Hygiene:** Ensure careful cleaning of the genital area each time after urination, and perform cleaning from front to back to prevent the spread of bacteria from the anal area to the urethra.
- c) **Change Underwear Regularly:** Use clean underwear and avoid wearing overly tight clothing, as this can create an ideal environment for bacterial growth.

- d) **Consult a Doctor:** If a pregnant woman experiences symptoms of a UTI, such as pain or a burning sensation during urination, she should consult a doctor promptly. The doctor will be able to provide an accurate diagnosis and safe treatment options during pregnancy.
- e) **Avoid Alcohol and Smoking:** Consuming alcohol and smoking can increase the risk of infections and negatively impact the health of the unborn baby.
- f) **Maintain a Balanced Diet:** Eating a healthy and balanced diet can help strengthen the immune system and promote overall health.
- g) **Regularly Visit the Doctor:** Follow the recommended prenatal care schedule and discuss any health concerns with your doctor.

METHOD

The research design used is a Pre-Experimental One Group (Pretest-Posttest) Design. The subjects of this study consist of 25 individuals from Parang Tambung Village, Tamalate District, Makassar City. Data collection techniques include tests and documentation. The testing technique involves pretests and posttests to assess the effectiveness of implementing poster and leaflet media. The purpose of these tests is to evaluate the understanding of participants regarding the implementation of poster and leaflet media. Data analysis techniques involve interviewing participants and processing data through data collection, data reduction, data presentation, and generalization, with data processing conducted using Microsoft Excel.

RESULTS AND DISCUSSION

The study was conducted in collaboration with posyandu (integrated health posts) cadres and service partners, involving 25 pregnant women and prospective mothers as research samples. This study utilized a pre-experimental design with a one-group pretest-posttest approach. The research process comprised three stages: the pre-experiment phase, the experiment phase, and the post-experiment phase.

Pra Eksperiment Phase

In this phase, the researcher prepared educational media devices on preventing urinary tract infections through clean and healthy living practices in Parang Tambung Village, Tamalate District, Makassar City. These educational media consisted of posters and leaflets, which were essential for supporting the educational activities, as shown in Figure 1.



Figure 1. Poster and Leaflet for Preventing Urinary Tract Infections in Pregnant Women

Eksperiment Phase

In the experiment phase, the researcher implemented the delivery of educational material directly to participants, accompanied by interactive dialogue on preventing urinary tract infections through clean and healthy living practices between the participants and posyandu cadres. This is illustrated in Figure 2.



Figure 2. Implementation of Education and Information

Based on the observations, it was found that the issue encountered was that the mothers were still unaware of the common causes of urinary tract infections in pregnant women. To prevent urinary tract infections in pregnant women, the indicators of clean and healthy living practices at the household level can be applied, including:

- a) Assisted delivery by a healthcare professional,
- b) Exclusive breastfeeding,
- c) Weighing infants monthly,
- d) Washing hands with clean water and soap,
- e) Using a sanitary toilet,
- f) Eliminating mosquito larvae in the home weekly,
- g) Eating fruits and vegetables daily,
- h) Engaging in physical activity daily, and
- i) Not smoking inside the home.

Additionally, it is crucial to undertake early prevention, both before pregnancy and during the pregnancy process, to ensure that issues can be detected more quickly. Therefore, increasing awareness and knowledge among pregnant women about Clean and Healthy Living Behaviors (CHLB) and urinary tract infections (UTIs) is the primary goal of this education.

Post-Experiment Phase

The results of the pretest and posttest showed an increase in knowledge, with the initial score rising from 20% to 68%. The number of participants with insufficient knowledge decreased, as shown in Tables 1 and 2 below.

Table 1. Pretest Results of Pregnant Women’s Knowledge about UTIs and Their Prevention

No.	Knowledge	Frequency	Percentage(%)
1	Less	13	52
2	Adequate	7	28
3	Good	5	20
	Total	25	100

Table 2. Posttest Results of Pregnant Women’s Knowledge about UTIs and Their Prevention

No.	Knowledge	Frequency	Percentage(%)
1	Less	3	12
2	Adequate	5	20
3	Good	17	68
	Total	25	100

This indicates that mothers recognize the importance, benefits, and goals of preventing urinary tract infections (UTIs) during pregnancy. Increased awareness about Clean and Healthy Living Behaviors (CHLB) will contribute to the prevention of UTIs, in line with other community service activities (Srigede et al., 2019). Knowledge about CHLB and UTIs can be influenced by education and health counseling. Mothers who possess this knowledge can indirectly perform self-care and family prevention measures (Subair et al., 2021). It is crucial for pregnant women and prospective mothers to have knowledge about CHLB and UTIs, as both significantly contribute to the health of the mother and fetus. Understanding and implementing CHLB helps prevent various diseases that could harm the mother and fetus and supports healthy fetal development. CHLB practices, such as maintaining personal and environmental hygiene, not only improve physical health but also provide comfort and reduce stress during pregnancy (Haris et al., 2017). Additionally, knowledge about UTIs is crucial because pregnant women are more susceptible to these infections due to hormonal and physical changes. By understanding the symptoms and prevention methods, pregnant women can avoid serious complications that could impact the pregnancy, such as kidney infections or premature birth. Therefore, knowledge about CHLB and UTIs provides comprehensive protection for both maternal and fetal health, making the pregnancy period safer and more comfortable (Jusnita, 2024; Moita, 2024).

CONCLUSION AND RECOMMENDATIONS

Through this research, it is hoped that pregnant women will gain a better understanding of the importance of maintaining personal and environmental hygiene, recognizing the signs of UTIs, and knowing the preventive measures they can take. Additionally, this study aims to provide practical information and training to midwives, who are the frontline providers of maternal healthcare, enabling them to deliver accurate and high-quality education to the community.

The research is expected to significantly contribute to reducing the incidence of UTIs among pregnant women and improving overall maternal and infant health. The National Midwives Day serves as an ideal moment to reflect on and strengthen the collective commitment to enhancing and safeguarding maternal health through the implementation of Clean and Healthy Living Behaviors (CHLB).

FUTURE RESEACH & RECOMMENDATIONS

Future research should aim to reach a larger target population. It is important to conduct evaluations and monitoring for health checks among at-risk communities to reduce the transmission of diseases. Efforts should be made to facilitate access to health screenings for pregnant women. By providing free health screening services and medical consultations, this initiative aims to make it easier for pregnant women to obtain necessary healthcare, including early detection of urinary tract infections (UTIs).

To enhance midwives' skills in providing education and healthcare related to clean and healthy living (CHLB) and UTI prevention, training and workshops should be implemented. Strengthening the capabilities of midwives will enable them to deliver more effective information and support to pregnant women and prospective mothers.

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