

delivery rather than a vaginal or instrumented delivery (58.7% vs 49.0%,  $p=0.041$ ). They were less likely to be underweight (7.2% vs 14.5%,  $p=0.019$ ) compared to primiparous patients. There were no significant differences in occupation, education level, or age at first marriage.

**Interpretation:** Unlike previous studies, the majority of patients presenting for repair at Bwaila Maternity Hospital were multiparous at the time of their fistula formation. This study highlights that the population of women with obstetric fistula is diverse and that even older and multiparous women are at-risk for developing fistula in settings where comprehensive emergency obstetric care is not available. Further understanding the factors that lead to obstetric fistula formation in multiparous patients is key to eliminating this condition in low-income countries.

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### Reducing disparities in hypertension control: A community-based hypertension control project for population in Rural Thailand

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**Background:** Hypertension is the most prevalent non-communicable disease causing significant morbidity/mortality through cardiovascular, cerebrovascular, and renal complications. Therefore, Community Hypertension Intervention Project (CHIP) was initiated to prevent Hypertension and improve patient outcomes in a high-risk, underserved population in rural community of Nakhon Ratchasima, Thailand. This aim to test the efficacy of multiple interventions in preventing/controlling hypertension.

**Methods:** Study design: A pre-posttest design study was used to test the comprehensive CHIP in Tahjalung Sub-district of Chok Chai District, Nakhon Ratchasima, Thailand. Participants: Subjects included 123 individuals at hypertensive risk, 25 pre-hypertensive person, and 45 patients who were residents of the sub-district. Interventions: Tailored interventions included Health education with hypertensive screening, changing lifestyle, Salt Intake Reduction, and physical exercise. Additionally, hypertensive patients received individualized counseling sessions with researchers, health workers, and volunteers; a comprehensive comorbidity assessment, and home visits/focus group discussions provided by nursing students, faculty, and hospital staff. Grand round was conducted to promote community participation and continuum of care. Analysis: Descriptive statistics were used to describe participants. Additionally, T-Test and ANOVA were used to test an effectiveness of the interventions.

**Findings:** The interventions showed significant reduction in salt intake, risk behaviors, and blood pressure. Four new cases were identified from screening. Four, three, and two patients were diagnosed with chronic kidney disease, diabetes mellitus, and cardiovascular diseases, respectively. All patients had significant improvement in compliance resulting in better outcomes. Individuals with health needs were referred for proper and continuum of care.

**Interpretation:** This CHIP study confirmed the biological plausibility of comprehensive community based interventions. Individualized counseling and home visits resulted in significant, sustained improvements in pharmaceutical compliance, appointment keeping and blood

pressure control status. These findings are now being integrated into the patient care delivery system of the local primary care clinics.

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### The operation of a sustained clinical pediatric hematology-oncology program at a public hospital in sub-saharan africa: The botswana experience 2007-present

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**Program/Project Purpose:** The Botswana Pediatric Hematology-Oncology Program started in August 2007 at Princess Marina Hospital (PMH), the major referral hospital in Gaborone, Botswana. This program is the only care and treatment available in the country for children with blood disorders and cancer. This unique program aims to improve morbidity and mortality from these diseases for the children of Botswana and to develop a regional program of excellence.

**Structure/Method/Design:** The program goals are to improve care and treatment of pediatric blood disorders and cancer and train local healthcare professionals in the care of these patients to ensure a locally sustainable program of excellence in pediatric hematology-oncology. The principle local partners are the Ministry of Health (MOH), University of Botswana (UB), and PMH. The MOH and PMH, the major referral hospital of the country were selected as strategic partners to positively impact the national health care system of Botswana. These partners were selected because the MOH runs the national healthcare system and PMH is the major referral hospital in the national system. UB has the only medical school in the country and thus serves as the perfect stakeholder for educating and training healthcare providers. The program is integrated into the local government healthcare system to ensure long-term sustainability.

**Outcomes & Evaluation:** There were 22 children with cancer identified and treated at PMH prior to our program. Since the program inception over 200 children have been identified and treated and survival has increased almost 3-fold. Over 80 nurses, social workers, medical officers, dieticians, pharmacists, surgeons, medical students, and pediatric residents have received education and training in the care of these children. There are 64 active hemophilia patients. The average daily inpatient census is ~10 patients with over 40 new inpatient consults annually. There are over 300 chemotherapy encounters annually.

**Going Forward:** While the number of children treated has increased dramatically, there continue to be local system challenges. The rotation of trained nursing staff away from the unit where these patients are treated results in dilution of expertise which is a major challenge. Local, intermittent shortages of medications also results in delays in care and treatment. Finally, the unavailability of certain diagnostics results in portions of treatment occurring outside the country. The development of a local fellowship training program to ensure ongoing training & education of future leaders is not yet accomplished. This remains a key goal and future activities will focus on ensuring the development of this training within the context of the UB School of Medicine.

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