| Authors | Date of publication | Author affiliations (first author) | Location | Title | Method Characteristics | Key Findings |
|---------|---------------------|------------------------------------|----------|-------|------------------------|--------------|
| Ben-Tovim 1 | 1981 (January-March) | Repatriation General Hospital, Adelaide, Australia | Botswana’s State Mental Hospital | A comparison between patients admitted to psychiatric hospitals in Botswana and South Australia | Design: cross-sectional A clinical interview using ICD-9 criteria. Sample size: 100 Statistical analysis: descriptive statistics | Psychotic were mostly diagnosed in Botswana compared to Australia with mostly neurotic disorders. Patients in Botswana presented earlier compared to those in Australia. Patient in Botswana had aggression directed towards properties and others, while in Australia, patients’ aggression was mostly directed toward self. |
| Ben-Tovim 2 | 1981 (June) to 1982 (June) | University of South Australia | Chobe region | Prevalence of schizophrenia in a remote area of Botswana | Design: cross-sectional Measure: A clinical interview using ICD-9 criteria. Sample size: 26 Sample characteristic: male and females 15 years and above | The adjusted annual prevalence of schizophrenia in Botswana was 5.3 per 1000 using ICD-9 and 4.3 per 1000 |
| John 3 | 1983 | Mid-America Nazarene College, USA | Botswana towns and villages | Children’s thinking in Botswana: Piaget tasks examined | Design: Cross sectional Measure: Six tasks were completed. Conservation of number, length, mass and weight, seriation and classification exercises were carried out using materials commonly found in the culture Sample size: 554 Sample characteristics: primary school children from urban, rural, and traditional village environments. | Urban children completed tasks at an earlier age than those from other environments. Number and seriation conservation age in African children is similar to those of Euro-American cultures. The tasks of conservation of length, mass and weight, and classification shows a later developmental age than the Euro-American Counterparts |
| Ben-Tovim 4 | 1983 | Jubilee psychiatric hospital (JPH). Ghanzi; kgalagadi, and Chobe | | A psychiatric service to the remote areas of Botswana | Design: Cross-sectional study. Measure: A clinical interview using ICD-9 | Sex ratio F:M =1:3 Mean age: new patients = 26±13; repeat |
| Authors | Date of publication | Author affiliations (first author) | Location | Title | Method Characteristics | Key Findings |
|---------|---------------------|-----------------------------------|----------|-------|------------------------|--------------|
| Ben-Tovim | 1985 | Jubilee Hospital, Francistown | Jubilee Hospital, Francistown | DSM-III in Botswana: a field trial in a developing country | Design: cross-sectional  
Measure: DSM-III  
Sample size: 106  
Sample Characteristics: 59 men and 47 women new patients, age unspecified. | DSM-III criteria were generally applicable to the diagnoses of conditions in the developing countries.  
The most common diagnosis was adjustment disorder |
| Delmonico  | 2001 | Duquesne University, Pittsburgh, USA | Towns and villages in Botswana | Compulsive Sexual Behavior and HIV in Africa: A First Look | Design: cross sectional  
Measure: Sexual Addiction screening Test (SAST) used and compared with already existing scores of 42 American males  
Sample size: 52  
Sample characteristics: Batswana males | Batswana males had higher mean SAST scores and endorsed specific items on the SAST more frequently than their American counterparts. |
| Phorano  | 2005 | University of Botswana | Gaborone Maun | Alcohol abuse, gender-based violence and HIV/AIDS in Botswana: establishing the link based on empirical evidence. | Design: Case study  
Measure: In-depth interviews  
Sample size: 20 cases  
Sample characteristics: women selected | There is a relationship between alcohol abuse and gender-based violence, which makes victims vulnerable to HIV infection. |
| Authors | Date of publication | Author affiliations (first author) | Location | Title | Method Characteristics | Key Findings |
|---------|---------------------|-----------------------------------|----------|-------|-------------------------|--------------|
| Malete 8 | 2007 | UB | 4 main urban areas in Botswana | Aggressive and Antisocial Behaviours Among Secondary School Students in Botswana: The Influence of Family and School Based Factors | **Design:** Cross sectional  
**Measure:** Investigator designed questionnaire. Aggression scale (Orpinas and frankowski 2001).  
**Sample size:** 1478  
**Sample characteristics:** male = 48.8% and female = 51.2%.  
Age ranged between 12-20 years junior and Senior Secondary school students | The prevalence of self-reported aggressive tendencies and antisocial behaviors were notable  
Boys rated themselves higher than girls on aggression, use of alcohol and drugs  
High scores were significantly related to poor parent child relations and low parental monitoring. |
| Decker 2 | 2007 | University of Massachusetts, USA | Unspecified are in Botswana | Failed Urban Migration and Psychosomatic Numbing: Cortisol, Unfulfilled Lifestyle Aspirations and Depression in Botswana | **Design:** ethnographic  
**Sample characteristics:** rural and urban adult Botswana men. | Failed urban migration is associated with low cortisol and high depressive affect, and rural residence is also independently associated with high depressive affect.  
This psychosomatic syndrome may be like that observed in posttraumatic stress disorder, suggesting that the experience of failed urban migration is considerably more stressful than the demands of employed urban life in contemporary Botswana. |
| Authors                        | Date of publication | Author affiliations (first author) | Location                                      | Title                                                                 | Method Characteristics                                                                                                                                                                                                 | Key Findings                                                                                                                                                                                                 |
|-------------------------------|---------------------|-----------------------------------|-----------------------------------------------|----------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Thupayagale-                  | 2008                | Department of Nursing Education   | One rural village in Botswana                 | Psychosocial effects experienced by grandmothers as primary caregivers in rural Botswana | Design: Critical ethnographic design Measure: Semi-structured questions Sample Size: 25 Sample characteristics: grandmothers who were primary caregivers to their grandchildren in one rural village of Botswana | A central theme that emerged from the interviews under psychological effects was ‘disenfranchised grief’ with sub themes that included depression, loneliness, blaming and stress. The themes that emerged on social effects included isolation, loss of control, unavailability of mental health services, financial hardships and a sense of failure for some participants. |
| Tshweneagae                   |                     | University of Botswana             |                                               |                                                                      |                                                                                                                                                                                                                        |                                                                                                                                                    |
| Segopo 11                     | 2009                | UB                                | Gaborone and surrounding areas in Botswana   | A screening instrument for psychological distress in Botswana: validation of the Setswana version of the 28-item general health questionnaire | Design: Cross sectional Measure: GHQ-28, Clinical Interview Schedule (CIS). Sample size: 126 Sample characteristics: outpatients                                                                                                  | Nil gender difference between the GHQ and CIS scores The Setswana GHQ-28 is valid for use in primary health care setting in Botswana                                                                 |
| Seloilwe 12                   | 2009                | UB, school of nursing              | Awaiting full text                           | Sexual Abuse and Violence Among Adolescent Girls in Botswana: A Mental Health Perspective | Design: Case study Sample characteristics: female adolescents                                                                                                                                                    | sexual abuse and violence have profound mental health consequences including guilt, anxiety, depression and anger.                                                                                     |
| Page 13                       | 2009                | Brigham Young University          | Botswana, Kenya, Namibia, Uganda, Zambia and Zimbambwe | Psychosocial Distress and Alcohol Use as Factors in Adolescent Sexual Behavior Among Sub-Saharan African Adolescents | Design: cross-sectional Measure: The Global School-based Student Health Survey (GSHS) Sample size: 22,949 Sample Characteristics: Adolescents in 6 countries (Botswana, Kenya, Uganda, Zambia, Namibia, Zimbabwe) | Sexual behaviors (having sex or having sex with 2 or more people) were associated with both psychosocial distress and alcohol use. That both boys and girls reporting psychosocial distress and alcohol use were at higher risk for having sex. The likelihood of sexual behaviors increased when there was an increase in the number of psychosocial indicators and frequency of alcohol consumption. |
| Authors                        | Date of publication | Author affiliations (first author) | Location          | Title                                                                 | Method Characteristics                                                                 | Key Findings                                                                                                                                 |
|-------------------------------|---------------------|-----------------------------------|-------------------|----------------------------------------------------------------------|-----------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|
| Dunn                          | 2009                | University of South Africa        | Botswana          | Play Therapy as an Intervention Against Sexual Violence in Botswana | Design: Qualitative research (focus group discussion)                                      | The study reveals that the Westernized concept of Play Therapy, with adaptation, is relevant within Botswana.                                      |
| Gupta                         | 2010                | University of California, USA     | 5 districts in Botswana | Depression and HIV in Botswana: A Population-Based Study on Gender-Specific Socioeconomic and Behavioral Correlates | Design: cross-sectional population-based study Measure: Hopkins Symptom Checklist for Depression (HSCL-D) Sample size: 1,268 Sample characteristics: 18–49-year-old adults from five districts in Botswana with the highest prevalence of HIV-infection. | 25.3% of women and 31.4% of men had depression. Among women, lower education, higher income and lack of control in sexual decision-making positively associated with depression. Among men, being single, living in a rural area, frequent visits to a health provider, anticipated HIV stigma, and intergenerational sex were associated with depression. |
| Lawler                        | 2010                | Upenn, USA                        | Princess Marina Hospital (PMH), Gaborone, Botswana | Neurocognitive impairment among HIV-positive individuals in Botswana: a pilot study. | Design: cross-sectional study Measure: inventory of activities of daily living (ADL), and subjective questionnaire of cognitive functioning. Sample size: 120 Sample characteristics: HIV-positive individuals (60 men and 60 women), age of 21-50 years. | 38% met criteria for dementia on the IHDS, and 24% were diagnosed with major depressive disorder. The prevalence of neurocognitive impairment in HIV-positive individuals in Botswana is higher than expected despite the use of HAART. This thus suggest the need for early introduction of HAART. |
| Thupayagale-Tshweneagae       | 2010                | UB                                | Multi-center, Botswana | Emotional violence among women in intimate relationships in Botswana | Design: cross-sectional Qualitative Measure: Six months period of extensive (unstructured) interview. Sample size: 10 Sample characteristics: Age: 35-56 years. | Socio-cultural practices are major contributors of abuse in Botswana. Education and employment worsen abuse. Depression and anxiety are common results. |
| Authors | Date of publication | Author affiliations (first author) | Location | Title | Method Characteristics | Key Findings |
|---------|---------------------|-----------------------------------|----------|-------|------------------------|--------------|
| Plattner | 2010 | Department of Psychology, UB University of Botswana | 'We are the forgotten ones': occupational stress among university secretaries in Botswana. | Design: Cross-sectional Measure: author designed self-administered questionnaire. Sample size: 64 Sample characteristics: Secretaries listed in the University's internal telephone directory | Overall, respondents were satisfied with their job ▪ 68.9% liked the kind of work they did ▪ 89.1% felt productive at work ▪ 89.1% reported having a good relationship with their supervisor. ▪ 65.6% felt that they were not paid a fair salary ▪ 62.9% were not satisfied with their chances for promotion. ▪ only 15.6% of the respondents felt that the amount of work was too much, ▪ 54.7% reported that 'sometimes' they had nothing to do. A relatively high number of 67.2% respondents reported that 'sometimes' they felt quite bored at work and 68.3% 'sometimes' wished that they had more work to do. In some cases the mere exposure to certain potential stressors (i.e. lack of job clarity, supervising junior colleagues, sharing a telephone and sharing a computer) was associated with psychosomatic problems, regardless of whether these stressors were subjectively perceived as stressful or not. Respondents who reported that they had junior colleagues who did not want to be supervised by them were more likely to report insomnia and digestive problems. Sharing a telephone as well as sharing a computer was associated with headaches |
| Shumba | 2011 | Faculty of Humanities, Not Botswana | The Nature, Extent and Causes of Abuse of | Design: cross-sectional | Most of the participants were involved in doing domestic chores. They were also |
| Authors | Date of publication | Author affiliations (first author) | Location | Title | Method Characteristics | Key Findings |
|---------|---------------------|-----------------------------------|----------|-------|------------------------|--------------|
| Central University of Technology, Bloemfontein, Free State, South Africa | specified | Children with Disabilities in Schools in Botswana | **Measure**: adapted pupil questionnaire | **Sample size**: 31 | sexually, physically and emotionally abused by their teachers. This study showed that children with disabilities were vulnerable to child abuse in their schools. |
| Lowenthal 2011 | Children's Hospital of Philadelphia | Infectious disease clinics, Francistown and Maun, Botswana. | Validation of the Pediatric Symptom Checklist in HIV-infected Batswana | **Design**: Cross-sectional | The Setswana PSC has high internal consistency (Cronbach's alpha 0.87 for the parent-completed version). Comparing PSC scores to parental reports of concern and child-reported depression symptoms, a cut-off score of 20 on the PSC and PSC-Y maximized the sensitivity and specificity. |
| Lawler 2011 | Center for AIDS Research and Botswana UPenn Partnership, Gaborone | Neurobehavioral Effects in HIV-Positive Individuals Receiving Highly Active Antiretroviral Therapy (HAART) in Gaborone, Botswana | **Design**: A cross sectional study | **Measure**: Comprehensive neuropsychological test battery Primary Care Evaluation of Mental Disorders (Prime-MD) module for depression, anxiety and alcohol Activities of daily living scale | HIV+ subjects were impaired for all cognitive-motor ability areas compared with matched, uninfected control subjects. Thirty seven percent of HIV+ patients met criteria for cognitive impairment. There was no difference between the two groups with respect to alcohol use Forty-two percent of HIV+ subjects met criteria for Generalized Anxiety Disorder (GAD), which was higher than the 25% in controls incidence of Major Depressive Disorder (MDD) was similar for the two groups, as |
| Authors | Date of publication | Author affiliations (first author) | Location | Title | Method Characteristics | Key Findings |
|---------|---------------------|-----------------------------------|----------|-------|------------------------|--------------|
| Lewis | 2012 | University of Pennsylvania (Upenn) USA | Gaborone, Botswana | Depression in HIV-Positive Women in Gaborone, Botswana. | **Design:** cross-sectional study random selection  
**Measure:** two screening measures of depression, an inventory of activities of daily living (ADL), and subjective questionnaire of cognitive functioning.  
**Sample size:** 62  
**Sample characteristics:** Randomly selected HIV positive women | 48% of the women had depression using BDI-FS. The two screening measures are useful for detecting depression in women infected with HIV in resource-limited countries. |
| Zetola | 2012 | Upenn, USA | MDR-TB Clinics in Botswana | Alcohol use and abuse among patients with multidrug-resistant tuberculosis in Botswana | **Design:** Case control study  
**Measure:** author designed AUDIT  
**Sample size:** MDR TB 114 , TB 114, HIV 114, Gen population 228  
**Sample characteristics:**  
MDR-TB patients  
Non-MDR-TB patients control groups; HIV infected patients without a history of TB; and the general population | Patients with MDR-TB had a lifetime prevalence of alcohol use of 35.1%, which was lower than that of all control groups.  
Among patients with TB, alcohol abuse was found to be a risk factor for the development of MDR-TB. Alcohol use could be an important modifiable factor in TB management. |
| Authors | Date of publication | Author affiliations (first author) | Location | Title | Method Characteristics | Key Findings |
|---------|---------------------|-----------------------------------|----------|-------|------------------------|--------------|
| Gbadamosi | 2012 | Worcester Business School University of Worcester. | Gaborone | Perceived Stress and Performance Appraisal Discomfort: The Moderating Effects of Core Self-Evaluations and Gender | **Design:** A cross sectional survey  **Measure:** Perceived stress scale, core self-evaluation scale, Performance Appraisal of Discomfort scale  **Sample size:** 300  **Sample characteristics:** managers in Gaborone, Botswana. Usable data was obtained from 167 managers | A negative and insignificant association was found between performance appraisal discomfort and perceived stress. Neither core self-evaluations nor gender significantly moderated the relationship between performance appraisal discomfort and perceived stress. Women earned less income and their perceived stress was significantly higher than men's. Also, gender, core self-evaluations and then performance appraisal discomfort (in that order of strength) were significant predictors of perceived stress accounting for 12 percent of its variance. |
| Decker | 2013 | University of Massachusetts, Unspecified rural and urban areas in Botswana | Stress as adaptation? A test of the adaptive boost hypothesis among Batswana men | **Design:** ethnographic  **Measure:** salivary cortisol and Beck Depression Inventory (BDI).  **Sample size:** 32  **Sample characteristics:** urban living adult men who were actively engaged in the cash-economy. | Elevated cortisol provides an “adaptive boost” to meet daily demands and may be beneficial in some circumstances |
| Philips | 2013 | Yale University School of Nursing, Connecticut, USA Holy cross and Pabalelong hospice(s) | The Emotional and Spiritual Well-Being of Hospice Patients in Botswana and Sources of Distress for Their Caregivers | **Design:** Cross-sectional (mixed methods design)  **Measure:** Semi-structured interviews and the Quality of Death and Dying (QODD) questionnaire were used | Quality of life of decedents was poor. Emotional and spiritual distress persist at high rates even for those receiving support from a nongovernmental hospice (NGH). Caregiver distress arises from practical needs, including lack of food, clothing, and |
| Authors          | Date of publication | Author affiliations (first author) | Location         | Title                                                                 | Method Characteristics                                                                 | Key Findings                                                                                                                                                                                                 |
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| Dithole          | 2013                | Department of Health science, University of South Africa | PMH Botswana     | Posttraumatic Stress Disorder among Spouses of Patients discharged from the Intensive Care Unit after Six Months | Design: cross-sectional Measure: PCL-S (PTSD Checklist). Sample size: 28 | Ten spouses reported feeling anxious for a short while after their spouse’s discharge but that they had come to terms with the experience. Pre- and post-counselling for close relatives, especially spouses, should be implemented at the point of hospitalization, during admission, and after discharge for a period of at least six months. |
| Lowenthal        | 2013                | University of Pennsylvania        | 692 HIV-infected treated children (ages of 8-<17 years) in Botswana, | Rapid psychosocial function screening test identified treatment failure in HIV+ African youth | Design: cross-sectional Measure: Pediatric Screening Checklist (PSC) Sample size: 692 Sample characteristics: HIV-infected treated children (ages of 8 to < 17 years) | A high score on the PSC was associated with having virologic failure (OR 1.7, 95% CI 1.1–2.6). The PSC may be a useful screening tool in pediatric HIV. |
| Balogun          | 2014                | University of Tokyo, Japan        | Multinationa l. | Alcohol Consumption and Psychological Distress in Adolescents: A Multi-Country Study | Design: cross-sectional Measure: Questionnaire based survey of secondary school students Sample size: 2178 Sample characteristics: Age of 13-15 years. Gender, not specified. | Current alcohol use was 19.6%, lifetime drunkenness was 20.4. Current alcohol use was associated with depression and sleeplessness. Lifetime drunkenness was also associated with depression and sleeplessness. |
| Authors          | Date of publication | Author affiliations (first author) | Location          | Title                                                                 | Method Characteristics                  | Key Findings                                                                                                                                 |
|------------------|---------------------|-----------------------------------|-------------------|----------------------------------------------------------------------|-----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|
| Pumar            | 2014                | UB                                | Gaborone, Botswana | Developing a Medical School (MS) Psychiatry Training Program in Botswana: Overcoming Obstacles with Innovation | Report                                  | By leveraging the experience of partner-institutions from the developed nations, UBMS has made substantial early progress in preparing a new generation of doctors to provide mental health care in Botswana. |
| Modie-Moroka     | 2014                | UB                                | Francistown, Botswana | Stress, social relationships and health outcomes in low-income Francistown, Botswana | Design: cross-sectional Measure: quantitative design: WHOQOL, Sample size: 388 Sample characteristics: low-income urban dwellers in Francistown, Botswana. | the availability of social relationships was associated with better physical and psychological health and level of independence. |
| Plattner         | 2014                | UB                                | UB, Botswana       | Students' Views on the Value of Psychological Research: A Contribution to Indigenizing Psychology in Botswana | Design: Cross-sectional Measure: Qualitative focus group discussion Sample size: 45 Characteristics: undergraduate students belonging to the first cohort of psychology students at the University of Botswana participated in the study | Students were of the view that psychological research should (a) increase knowledge to better understand human beings and the world (epistemological value); (b) create awareness about psychology within society so as to assist society in combating societal problems (societal value); (c) enhance individuals' understanding of psychology so as to accept psychology (individual value); and (d) up-date psychological theories to ensure their applicability in present times (theoretical value). |
| Korb             | 2014                | UB                                | UB, Botswana       | Suicide ideation and depression in university students in Botswana. | Design: Cross sectional survey Measure: BDI-II Sample size: 122 Characteristics: undergraduate students | 47.5% of the respondents reported suicide ideation, 28.7% reported previous suicide attempts, and the mean depression score was 19.14. Suicide ideation correlated strongly with total depression scores. |
| Authors          | Date of publication | Author affiliations (first author) | Location | Title                                                                 | Method Characteristics                                                                 | Key Findings                                                                                                                                                                                                 |
|------------------|---------------------|-----------------------------------|----------|----------------------------------------------------------------------|-----------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Monteiro 34      | 2014                | Department of Psychology, University of Botswana | UB Gaborone | Managing stress: the influence of gender, age and emotion regulation on coping among university students in Botswana | **Design**: correlational survey cross-sectional<br><br>**Measure**: Difficulty in Emotion Regulation Scale and the Coping Strategy Inventory<br><br>**Sample size**: 128<br><br>**Sample characteristics**: University of Botswana students with an age range of between 18 and 29 years | The level of depression severity was linearly related to suicide ideation.<br><br>Female students used wishful thinking and problem-focused disengagement more than male students.<br><br>Older students were more likely to use problem-solving, cognitive restructuring and express emotion coping strategies.<br><br>Problems in emotion regulation significantly predicted problem- and emotion-focused engagement, problem- and emotion-focused disengagement and coping strategies.<br><br>Non-acceptance of emotional responses, a type of emotion suppression, was positively correlated with problem solving, cognitive restructuring, expressing emotion, social support, problem avoidance and wishful thinking coping strategies. |
| Mullan 35        | 2015                | Fielding Graduate University (Texas, USA) |          | Psychosocial issues among children and adolescents in an integrated paediatric HIV psychology service in Botswana | **Design**: cross-sectional<br><br>**Measure**: author designed self-administered questionnaire.<br><br>**Sample size**: 155<br><br>**Sample characteristics**: 27 young children aged 5–9 years and 128 adolescents aged 10–19 years | The most frequently identified psychosocial issues were behaviour problems (70%), family issues (58%), and HIV medication adherence (57%).<br><br>Compared to young children, adolescents were more likely to have HIV medication adherence issues.<br><br>Missed appointments were most commonly attributed to patient forgetfulness (21%) and conflicting appointments (18%). |
| Sandfort 36      | 2015                | Columbia University, four southern Africa |          | Histories of forced sex and health outcomes among Southern African | **Design**: cross-sectional | Nearly one-third of participants had been forced to have sex at some time in their lives. Thirty-one percent of all women reported to... |
| Authors            | Date of publication | Author affiliations (first author) | Location          | Title                                                                 | Method Characteristics                                                                                              | Key Findings                                                                                                                                                                                                 |
|--------------------|---------------------|-----------------------------------|-------------------|----------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Coleman            | 2016                | University of Pennsylvania        | Gaborone          | Predictors of Depression among Seropositive Batswana Men and Women: A Descriptive Correlational Study | Design: cross-sectional study<br>Measure: the CESD demographic questionnaire, Quality of Life measure<br>Sample size: 70<br>Sample characteristics: Men and Women living with HIV; median age 35 years (range 18–57). | Low energy and role limitations on emotional well-being were constitute for 50% the depressive symptoms.<br>There is need for providing mental health services for seropositive Batswana individuals in Botswana. |
| Westmoreland       | 2017                | The Children’s Hospital of Philadelphia, University of Botswana, Faculty of | Registrar wellness in Botswana: measuring burnout and identifying | Design: Cross sectional<br>Measure: validated Maslach Burnout | A high degree of burnout was reported by 75% of registrars in one or more domains.                                                                 |                                                                                                                                                                                                                                                      |
| Coleman            | 2016                | University of Pennsylvania        | Gaborone          | Predictors of Depression among Seropositive Batswana Men and Women: A Descriptive Correlational Study | Design: cross-sectional study<br>Measure: the CESD demographic questionnaire, Quality of Life measure<br>Sample size: 70<br>Sample characteristics: Men and Women living with HIV; median age 35 years (range 18–57). | Low energy and role limitations on emotional well-being were constitute for 50% the depressive symptoms.<br>There is need for providing mental health services for seropositive Batswana individuals in Botswana. |
| Oondo              | 2017                | University of Botswana (UB)        | Sbrana Psychiatric Hospital, Lobatse (SPH) | HIV prevalence among hospitalized patients at the main psychiatric referral hospital in Botswana | Design: Cross sectional. Retrospective file review<br>Measure: Data extraction from file by investigator designed questionnaire<br>Sample size: 1725<br>Sample characteristics: Psychiatric inpatients 18-49 years admitted between Jan 1 2011 and 31 December 2012 | HIV was more prevalent in female<br>HIV was more prevalent among patients with organic mental disorders and neurotic, stress related and somatoform disorders<br>Largest proportion of patients with HIV had schizophrenia, schizotypal and other psychotic disorders. |
| Coleman            | 2016                | University of Pennsylvania        | Gaborone          | Predictors of Depression among Seropositive Batswana Men and Women: A Descriptive Correlational Study | Design: cross-sectional study<br>Measure: the CESD demographic questionnaire, Quality of Life measure<br>Sample size: 70<br>Sample characteristics: Men and Women living with HIV; median age 35 years (range 18–57). | Low energy and role limitations on emotional well-being were constitute for 50% the depressive symptoms.<br>There is need for providing mental health services for seropositive Batswana individuals in Botswana. |
| Oondo              | 2017                | University of Botswana (UB)        | Sbrana Psychiatric Hospital, Lobatse (SPH) | HIV prevalence among hospitalized patients at the main psychiatric referral hospital in Botswana | Design: Cross sectional. Retrospective file review<br>Measure: Data extraction from file by investigator designed questionnaire<br>Sample size: 1725<br>Sample characteristics: Psychiatric inpatients 18-49 years admitted between Jan 1 2011 and 31 December 2012 | HIV was more prevalent in female<br>HIV was more prevalent among patients with organic mental disorders and neurotic, stress related and somatoform disorders<br>Largest proportion of patients with HIV had schizophrenia, schizotypal and other psychotic disorders. |
| Westmoreland       | 2017                | The Children’s Hospital of Philadelphia, University of Botswana, Faculty of | Registrar wellness in Botswana: measuring burnout and identifying | Design: Cross sectional<br>Measure: validated Maslach Burnout | A high degree of burnout was reported by 75% of registrars in one or more domains.                                                                 |                                                                                                                                                                                                                                                      |
| Authors | Date of publication | Author affiliations (first author) | Location | Title | Method Characteristics | Key Findings |
|---------|---------------------|-----------------------------------|----------|-------|------------------------|--------------|
| Olashore 40 | 2017 | UB Lobatse Botswana | Medicine | ways to improve wellness | Inventory  
Sample size: 20 registrars  
Sample characteristics: registrars (specialists in training) providing direct patient care at PMH: 20 paediatric, 16 internal medicine, and 4 emergency medicine registrars. | High levels of burnout were reported for emotional exhaustion in 65%, depersonalization in 45%, and personal accomplishment in 35% of registrars. The most common frustrations included insufficient salary and limited medical resources. Suggested interventions included improved mentorship and wellness lectures. |
| Olashore 41 | 2017 | Department of Psychiatry UB. Sbrana | Botswana | Polypharmacy among children and adolescents with psychiatric disorders in a mental referral hospital in Botswana | Design: Cross-sectional record review.  
Measure: Author design sociodemographic tool, ICD-10  
Sample size: 120  
Sample characteristic: children and adolescents aged below 18 years. Both inpatient and outpatient | The prevalence of psychiatric polypharmacy was 29.2%. Psychiatric co-morbidity and psychotropic side effects were significantly associated with polypharmacy. |
| Olashore 41 | 2017 | Department of Psychiatry UB. Sbrana | Botswana | Prescribing pattern of psychotropic medications in child psychiatric practice in a mental referral hospital in Botswana | Design: Cross-sectional record review.  
Measure: Author design sociodemographic tool, ICD-10  
Sample size: 238  
Sample characteristic: children and adolescents aged below 18 years. Both inpatient and outpatient | 70.8% of patients who had pharmacological intervention had monotherapy. The most commonly prescribed psychotropic agents were antipsychotics (40%). Off-label use of antipsychotics and polypharmacy were 31.2% and 29.2% respectively. The level of conformity to standard practice in terms of psychotropic prescribing in our setting is consistent with the reports from developed countries where more specialized care ostensibly exists. |
| Authors       | Date of publication | Author affiliations (first author) | Location          | Title                                                                 | Method Characteristics                                                                 | Key Findings                                                                                                                                                                                                 |
|--------------|---------------------|-----------------------------------|-------------------|----------------------------------------------------------------------|----------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Olashore 42  | 2017                | UB                                | Sbrana            | Diagnostic profiles and predictors of treatment outcome among children and adolescents attending a national psychiatric hospital in Botswana | Design: cross-sectional Measure: author designed Sample size: 238 Sample characteristics: Children and adolescents with mental health issues | The most common diagnosis was Attention deficit hyperactivity disorder (ADHD) with a prevalence of 25.2%. ADHD (60%) and Autism (58.3%) were more diagnosed in 5-9 years, whilst psychosis (80%) and depression (88.9%) amongst 14-17 years. Perinatal complication (OR 7.326, 95% CI: 1.312-40.899) and polypharmacy (OR 4.188, 95% CI: 1.174-14.939) independently predicted poor treatment outcome, after logistic regression |
| Olashore 43  | 2018                | UB                                | Gaborone Botswana | Psychoactive substance use among first-year students in a Botswana University: pattern and demographic correlates | Design: Cross sectional descriptive Measure: WHO student drug use Questionnaire and General Health Questionnaire Sample size: 401 Sample characteristics: First-year university students | Alcohol was the most widely used substance. Current use of alcohol, amphetamine type stimulants and benzodiazepines were associated with psychological distress. Positive relationship of substance use with low participation in religious activities. |
| Olashore 44  | 2018                | UB                                | SPH               | Post-traumatic stress disorder among the staff of a mental health hospital: Prevalence and risk factors | Design: Cross sectional. Measure: Researcher designed questionnaire, PTSD Checklist-Civilian Version (PCL-C) Sample size: 201 mental health workers Sample characteristics: mental health workers in psychiatric hospital, majority | 73.1 % assaulted by patients in the period of employment at hospital. 39.3 % assaulted within the past year. 18.4% met the criteria for PTSD. Exposure to violence in the past 12 months associated with PTSD mean score for neuroticism was found to be significantly higher in those who met the |
| Authors          | Date of publication | Author affiliations (first author) | Location       | Title                                                                 | Method Characteristics                                                                                     | Key Findings                                                                                                                                                                                                 |
|------------------|---------------------|-----------------------------------|----------------|----------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Hetolang         | 2018                | UB                                | Gaborone, Botswana | The associations between stressful life events and depression among students in a university in Botswana | **Design:** Cross sectional<br>**Measure:** Becks Depression inventory, Social Readjustment Scale<br>**Sample size:** 304 respondents<br>**Sample characteristics:** First to fifth year university students | Depression was found in 22%<br>Stressful life events significantly predicted depression<br>Relationship difficulties and losses markedly associated with depression                                                                                      |
| Barchi            | 2018                | USA                               | Maun            | Intimate Partner Violence Against Women in Northwestern Botswana: The Maun Women's Study. Violence Against Women | **Design:** Cross sectional<br>**Measure:** PHQ-9, self-developed Questionnaire<br>**Sample size:** 469<br>**Sample Characteristics:** community | 31% of respondents had chronic disease and depression<br>6% reported attempted suicide at least once in their lifetime.<br>Women reported psychological (23.3%), physical (35.9%), and sexual (9.6%) violence by an intimate partner within the past 12 months. In all, 27% and 6% IPV was 4 times associated with suicide<br>IPV was related to alcohol abuse<br>Relationship between sexual assault and alcohol abuse |
| Authors | Date of publication | Author affiliations (first author) | Location | Title | Method Characteristics | Key Findings |
|---------|---------------------|-----------------------------------|----------|-------|------------------------|--------------|
| Riva 47 | 2018                | USA                               | Public Secondary schools | Prevalence and predictors of alcohol and drug use among secondary school students in Botswana: a cross-sectional study | **Design:** cross-sectional  
**Measure:** Alcohol Use Disorder Identification Test (AUDIT), Botswana version of WHO’s Global Student Health Survey (GSHS)  
**Sample size:** 1936  
**Sample characteristics:** Secondary school students | 42.1% reported alcohol use, and 22.4% met criteria for hazardous alcohol use.  
Illicit drug use was reported by 16.7% students, with marijuana being the most used drug.  
Risk factors more strongly associated with alcohol and drug use were reported alcohol availability, individual and social vulnerability factors, and poor peer modeling. |
| Olashore 48 | 2018 | UB | Sbrana Hospital Lobatse | Physical violence against health staff by mentally ill patients at a psychiatric hospital in Botswana | **Design:** Cross sectional  
**Measure:** self-administered questionnaire, Andrew, and Withey Job Satisfaction Questionnaire  
**Sample size:** 201  
**Sample Characteristics:** Mental Health Staff | 125 (69.8%) reported a lifetime experience of physical violence by patients,  
79 (44.1%) reported being attacked in the last 12 months  
Common forms of violence included being hit (41.1%), kicked (21.8%), pushed (20.2%), and shaken (12.1%).  
Healthcare workers more likely to be attached while calming patients. Some incurred physical injury  
Nurses were significantly more exposed to physical violence in their lifetime compared to every other healthcare provider.  
Physical violence was associated with higher level job dissatisfaction. |
| Phillip 49 | 2019 | UB | UB | The influence of self-reported childhood sexual abuse on psychological and behavioural risks in young adults at a | **Design:** Cross sectional  
**Measure:** Childhood Sexual Abuse Scale, the 21-item Beck’s Depression Inventory–II, Revised Sociosexual Orientation Inventory, and AUDIT | About 25% reported childhood sexual abuse,  
18% reported harmful alcohol use (n = 66, 18.2%),  
7.82% (n = 28) reported severe depression, |
| Authors | Date of publication | Author affiliations (first author) | Location | Title | Method Characteristics | Key Findings |
|---------|---------------------|-----------------------------------|----------|-------|------------------------|--------------|
| Becker 50 | 2019 | Upenn, USA | Gaborone | “It’s When the Trees Blossom”: Explanatory Beliefs, Stigma, and Mental Illness in the Context of HIV in Botswana. | Design: cross-sectional, qualitative | Patients with mental illness are stereotyped as dangerous, untrustworthy and discriminated against. They have an increased vulnerability to HIV. |
| Khumalo 51 | 2019 | UB | Gaborone | The relationship between locus of control and depression: A cross-sectional survey with university students in Botswana | Design: cross-sectional | Locus of control is one of the variables associated with depression. |
| Mongale 52 | 2019 | UB | Gaborone | Childhood Family Environment and Depression in Early Adulthood in Botswana. | Design: | Childhood drug use, parental drug and alcohol use, physical assault and psychological aggression to parents predict depression in early adulthood. |
| Plattner 51 | 2019 | Gaborone | Gaborone | Developing a Computerized Brief Cognitive Screening Battery for Botswana: A Feasibility Study. | Design: cross-sectional | Brief computerized approach feasible for Botswana. |
| Authors         | Date of publication | Author affiliations (first author) | Location       | Title                                                                 | Method Characteristics                                                                 | Key Findings                                                                                   |
|-----------------|---------------------|-----------------------------------|----------------|----------------------------------------------------------------------|------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|
| Tsimas          | 2020                | UB                                | -              | Feasibility of implementing a novel behavioural smoking cessation intervention amongst human immunodeficiency virus-infected smokers in a resource-limited setting: A single-arm pilot trial | Design: Cross sectional<BR>Measure: Snaith–Hamilton Pleasure Scale<BR>Fagerström Test for Nicotine Dependence<BR>Sample size: 128<BR>Sample Characteristics: University students | 12 weeks retention rate was 53% (21/40).<BR>7-day point prevalence abstinence was 37.5% (15/40) |
| Vavani          | 2020                | UB                                | 8 HIV treatment centers | Intervention targets for people living with HIV and depressive symptoms in Botswana | Design: cross-sectional<BR>Measure: medical reports and self-report,<BR>Centre for epidemiologic studies Depression Scale (CES-D) and coping skills Cognition Emotion Regulation Questionnaire (CERQ), Behavioral Emotion Regulation Questionnaire (BERQ)<BR>Sample size: 291<BR>Sample characteristics: People Living with HIV | 43.4% had depressive symptoms.<BR>Most participants indicated that they needed help with the following topics: feelings of depression, physical tension, finding new goals and coping with HIV. In addition, they indicated preferring a self-help program in booklet format. Multiple regression analyses showed that the following coping strategies had significant relationships with depressive symptoms: rumination, catastrophizing, withdrawal, positive refocusing and refocus on planning (the latter two negatively |
| Molebatsi       | 2020                | UB                                | Gaborone       | The validity and reliability of the Patient Health Questionnaire-9 for screening depression in primary health care patients in Botswana. | Design: cross sectional<BR>Measure: MINI, phq-9, WHO Quality of life scale<BR>Sample size: 257<BR>Sample characteristics: adult primary care clinic attendants | PHQ-9 is a reliable instrument for screening for depression in Botswana |
| Authors               | Date of publication | Author affiliations (first author) | Location          | Title                                                                 | Method Characteristics                                                                 | Key Findings                                                                                                                                 |
|----------------------|---------------------|------------------------------------|-------------------|----------------------------------------------------------------------|----------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|
| Olashore 56          | 2020                | UB                                 | Gaborone          | Cannabis Use Disorder Among First-Year Undergraduate Students in Gaborone, Botswana | Design: cross sectional, Measure: WHO Drug Questionnaire, DSM 5                                | Cannabis Use Disorder found among students. Regular religious activity and receiving more than 150 USD monthly upkeep and difficulties in academic studies associated positively with cannabis use |
| Ramotuana 57         | 2020                | UB                                 | Gaborone          | Family Type Predicts Mental Health Problems in Young Adults: A Survey of Students at a University in Botswana | Design: cross sectional, Measure: revised symptoms checklist                               | Family types (single parent families, multiple family) predict mental health problems in young adults                                       |
| Tapera 58            | 2020                | UB                                 | Gaborone and Francistown | The theory of planned behavior as a behavior change model for tobacco control strategies among adolescents in Botswana. | Design: cross sectional, Measure: self-administered questionnaire                          | Attitudes, subjective norms and perceived control contribute significantly to students smoking                                           |

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