

Common Psychological and Behavioral Disorders in Transgender People: An Epidemiological Review

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Abstract

Background: In the last two decades, the number of people who have referred to mental health services due to concerns about gender identity has increased dramatically. The aim of this study was to present the most important and fundamental results of studies on transgender psychological and behavioral disorders and compare these results.

Methods: This is a narrative review study. Search for articles related to common psychological and behavioral disorders in transgender people was done by two trained researchers between December 2019 and March 2020 in 5 Latin scientific databases (Google Scholar, PubMed / Medline, Scopus, ISI Web of Science and Embase).

Results: Psychological and behavioral disorders were much higher in transgender people than in the general population. The most common disorders included anxiety and depression, suicidal attempt, drug abuse, self-injury without suicidal tendency, and HIV.

Conclusion: Transgender people are constantly harassed and abused by friends, acquaintances, classmates and teachers, and even their families. Having multiple sexual partners increases the risk of HIV infection and other sexual misconduct. Therefore, governments need to implement their support programs through training centers and counseling for transgender individuals.

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Introduction

At birth and according to the characteristics of the baby's external genitalia, gender can be assigned as a girl or a boy; however, gender identity is a person's mental feeling about being a boy or a girl that goes beyond a person's chromosomal characteristics.^{1,2} The transgender term refers to people whose gender at birth does not match with their current sexual identity,³ for example a person who was considered a man biologically at birth but he considers himself a girl or a woman.⁴ These people experience high levels of marginalization, social stigma, and health problems, including poor mental health and HIV.⁵ Thus, increasing anxiety levels and lowering

self-esteem can lead to the feelings of vulnerability and putting a person at risk for misbehavior, including suicidal attempts.⁶ Also, suicidal attempts are associated with other mental disorders such as depression.⁷ The number of transgender people around the world varies due to diversity in cultural and social norms as well as definitions.⁸ However, they may make up to 0.5 percent of adults.⁹ Estimates in the United States show that there are about 1.4 million transgender adults.¹⁰ Over the past two decades, the number of adolescents who have referred to mental health services due to gender identity concerns has risen dramatically. These individuals face with many mental health problems such as depression, anxiety, suicide, and substance abuse.¹¹ The aim of this

study was to present the most important and fundamental results of studies on transgender psychological and behavioral disorders and compare these results.

Methods

This is a systematic review study. Search for articles related to common psychological and behavioral disorders in transgender people between December 2019 and March 2020 was done by two trained researchers in 5 Latin scientific databases (Google Scholar, PubMed / Medline, Scopus, ISI Web of Science and Embase). The keywords used for our search included “Transgender”, “Transsexual”, “Two-Spirit Person”, “Mental Health”, “Mental Disorder”, “Behavior Disorder” and “Psychiatric Disorder”. The articles were retrieved using advanced search and using AND and OR operators. The criterion for inclusion of the article in the study was full text articles written in the English language, and the exclusion criterion was summary of articles published in congresses and seminars. After the search, 298 articles were retrieved. After applying the inclusion and exclusion criteria, selecting the main text which referred to mental and behavioral disorders in transgender people, and reviewing the text in terms of duplicate content, finally 51 articles were selected for data collection.

Results

Depression and Anxiety

Depression and anxiety are associated with experiences of discrimination and victimization, and this is one of the most common mental health problems in transgender people.¹² Transgender youth are at greater risks for their mental health, such as depression, anxiety and suicide, than their non-transgender youth. Transgender youth are three times more likely to be depressed and anxious.¹³ According to a study, the most common mental health problem in transgender people was depression, with more than 60 percent of those in the this group suffering from depression.¹⁴ In another study, 44.9 percent of transgender people were at risk for major depressive disorder, and about 38.4 percent showed generalized anxiety disorder. Depression and anxiety appear to have been strongly influenced by parental abuse (92.8%), bullying at school (76.6%) by classmates and teachers due to being transgender.¹⁵ In a study carried out by Valentine et al., it was reported that a similar percentage of transgender people had depression, with about 49.4 percent having depressive symptoms. However, cases of anxiety were estimated at 25.97%.¹⁶ In a study of 14 to 25-year-old transgender youth, 44 and 40 percent of them reported anxiety disorder and depression, respectively. According to the study, transgender people were shown to be more than three

times more likely to develop depression or anxiety disorder than others.¹⁷ One study found a significant difference between transgender and non-transgender people in depressive symptoms, with transgender people showing much more symptoms than non-transgender ones (53.9 percent versus 33.4 percent).¹⁸ In another study performed on transgender women, it was shown that the prevalence of depression was 54.4%, which was almost 3 times higher than the general population (19.6%).¹⁹ Also, in Lytle et al.’s study on students, the proportion of transgender people with depression was about twice as high compared to other population (43.6 percent versus 20.7 percent).²⁰ Another study found that transgender students were significantly more depressed than other students (41.3 percent versus 11.8 percent).²¹ In a study, the researchers found that sexual abuse caused depressive symptoms.²² Another study also cited discrimination and victimization as the risk factors for depression and anxiety, as common mental health problems in transgender people. The clinical depression rate in this study was estimated 36.2%. Results also showed that exposure to external psychological pressures (victimization, harassment, and discrimination) was associated with psychological distress.¹² According to another study, stigma and discrimination in transgender people are associated with an increased risk of depression.²³ In another study, more than half of the transgender people had symptoms of depression, and social support, trans-phobia, suicidal ideation, and income and education levels were significantly associated with depression.²⁴

Suicidal Ideation

Suicide is perhaps the saddest way to end a person’s life.²⁵ This phenomenon is known as the second leading cause of death among young people.²⁶ Teenagers and adolescents are three times more likely to commit suicide than others.¹³ The idea of suicide, which is defined as thinking or planning for suicide, is also common among most transgender people.²⁷ A meta-analysis of 23 studies conducted between 1997 and 2016 among transgender people reported that the prevalence of suicidal ideation was 55 percent.²⁸ In a study carried out on transgender women aiming at identifying the potential risks and protective factors of suicide, 33% of participants reported the idea of suicide.²⁷ Another study found that almost half of transgender people (48.36%) had suicide ideation in their life.²⁹ In one study, the idea of suicide in transgender people was reported to be about 50%.¹⁴ It has been reported that transgender people compared to lesbian, gay, and bisexual youth had more self-destructive behaviors.²⁶ In a research, the prevalence of suicidal ideation and suicidal attempts was 56.4 percent and 16.1 percent, respectively. Also, depression was a common mental illness.³⁰ In another study, 42.9 percent of transgender people had suicidal

ideation. In this study, depression was significantly associated with suicidal ideation.³¹ In another study similar to the previous studies, 42.8 percent reported suicidal ideation.¹⁶ It has also been found that the average number of suicidal ideation among transgender individuals was 55 percent.³² In another study, 38 percent of college students in Australia reported suicidal ideation.³³ Nearly 35 percent of transgender youth in a study conducted in California reported suicidal ideation over the past year, almost twice as the non-college youth.³⁴ In a study by Su et al., the prevalence of suicidal ideation was reported in 41% of transgender respondents, some of whom also attempted suicide, compared with 1.6% in the general population.¹⁸ Among transgender populations, there are many risk factors for committing suicide including drug abuse, experiencing violence, depression, anxiety, shame and discrimination, rape, sexual abuse, family rejection, and lack of social support.²⁷ A study reported that the prevalence of suicidal ideation among transgender youth was 35.2 percent, more than 5 times compared to other people in terms of age and social status.²⁰ Moreover, it has been revealed that most participants reported the prevalence of suicidal ideation throughout life with a prevalence of 64.9 percent.¹²

Suicidal Attempt

Suicide is common among transgender youth.^{13, 35} According to Weiselberg et al., 30% of transgender youth attempted suicide at least once, while 51% had only the idea of suicide.¹⁴ In another study, 18 percent of these individuals reported suicidal ideation.²⁶ In other studies, 48.1 percent reported suicidal ideation.³⁶ It has also been found that 40 percent of transgender people commit suicide, almost nine times as in the general population of the United States. In addition, the suicide rate with 41 percent was the highest among 18- to 24-year-old youth. Twenty-six percent of the respondents said they had recently attempted suicide between the ages of 14 and 17.^{37, 38} In another study, suicide rate was 36.5 percent; also, 42.9 percent of them had suicidal ideation.³⁹ A study by Gower et al., reported that the average suicide rate was 28.9 percent, with a range of 10.7 percent to 52.4 percent.⁴⁰ In another study, 20 percent of transgender students attempted suicide in the past year; that is, they were three times more likely to attempt suicide than other people.³³ In one study, more than a third of transgender people between the ages of 14 and 18 attempted suicide.¹⁷ In a study by Grant et al., 46 percent of transgender men and 42 percent of transgender women attempted suicide.⁴¹ In one study, transgender people attempted suicide more than twice compared to others (37.7 percent versus 15.9 percent).¹⁸ In another study, suicide plan and suicidal attempts were 35 percent and 27.9 percent, respectively, which is 7 to 10 times more than the general population.¹⁹ Also, according

to another study, people's experiences of sexual violence, discrimination, and religious stigma were associated with psychological distress and suicidal behavior in women of sexual minorities, including transgender women.²⁰ According to a study by Nemoto et al., about half of transgender women had a history of suicidal ideation.²⁴ It was indicated in another study that 29 percent of transgender people reported suicide, compared with 9 percent in other people.⁴² In a study by Lytle et al., conducted in two colleges, the number of transgender and non-transgender people who attempted suicide in college 1 was 10 percent versus 0.9 percent, while in college 2 it was 25.6 percent versus 4.3 percent.²⁰ According to a study carried out in the United States, the factors that played a role in suicidal attempts among transgender youth were verbal and physical abuse of parents in the past and low self-esteem.⁴³ In a 2006 study, researchers also found that one-third of transgender respondents reported at least one suicidal attempt in their lifetime.⁴⁴ In another study, more than half of the transgender youth reported suicidal ideation at least once in their lifetime, and about one-third had attempted suicide at least once.⁴⁵ One study reported that transgender people who had experienced physical or sexual violence were significantly more likely to attempt suicide.⁴⁶

Self-harming Behavior

A study on transgender people, most of whom were transgender women, found that 41.9 percent of participants had a history of self-harming behavior regardless of suicidal intention.⁴⁷ In a study, more than 33.6 percent of transgender students reported suicide without the intention to commit suicide, while about 18 percent experienced suicide in the past year. Issues related to mental health such as depression had a history of physical or sexual abuse mentioned as important risk factors for these behaviors.²⁶ In another study, 53.3 percent of transgender people reported having a history of self-injury. This behavior was more common in younger people and associated with feelings of shame and disgrace.⁴⁸ Another study found that approximately 55 percent of transgender students experienced suicidal ideation in the past year, and 40 percent of transgender people reported self-harming behavior regardless of suicidal intention.⁴⁹ According to research, mental health problems such as anxiety, depression in lesbians, homosexuals, bisexuals and transgender people are associated with self-harming behaviors.⁵⁰ According to a study, 75 percent of transgender people had suicidal ideation, 40 percent had a history of self-harm behavior, and 45 percent had attempted suicide. In this study, a high rate of mental health problems was seen in the samples.⁵¹ In one study, 16.7 percent of transgender people had a history of self-harming behavior regardless of suicidal intention, compared with 4.4 percent of

non-transgender people.

HIV Infection

Transgender women are 49 times more likely to be exposed to HIV than other adults worldwide.⁵² Transgender communities are among the most individuals at risk of HIV infection in the United States.⁵³ It was also reported that the prevalence of HIV among American women (48%) and Hispanic women was high (50%), which was a significant difference compared to white women (4%).⁵⁴ Several studies reported that African and American transgender women were more likely to have sexually transmitted diseases than white and Asian transgender women.⁵⁵⁻⁵⁷ In one study, the prevalence of sexually transmitted diseases such as HIV among transgender women was estimated 40 percent.⁵⁸ In another study, 39.5 percent of the transgender women had positive HIV test, compared with 84.1 percent in transgender men. About 27 and 48 percent of transgender men talked about risky sexual behaviors, such as unprotected anal intercourse and having multiple sexual partners.⁵⁹ In a study conducted in 15 countries and continents, the prevalence of HIV in transgender women worldwide was 19.1 percent. Also, the prevalence of HIV was 17.7 percent in 10 low-income and middle-income countries and 21.6 percent in five high-income countries. Overall, the prevalence of HIV infection in transgender women compared to all adults at reproductive age in 15 countries was 48.8%.⁶⁰

Alcohol and Drugs Use

A study about transgender women found that 57.7 percent of them use alcohol, 25.6 percent use marijuana, and 21.5 percent use methamphetamine. In addition, more than 66 percent of transgender women used injectable drugs or illegal hormones.⁶¹ A study found that 58% of transgender women used alcohol, and 43.3% used drugs; the most common drugs used were marijuana (29%), methamphetamine (20%), and cocaine (13%).⁶² According to another study, drug use among transgender women over the past six months was 76.2 percent. Sexual abuse in the last six months has been associated with alcohol, cannabis, cocaine, and other drugs.⁶³ One study found that 75.5 percent of transgender people used alcohol, 61.5 percent used cannabis, 58 percent used tobacco, and 43 percent used other drugs, including cocaine, hallucinogens, sedatives, and stimulants.⁴⁵

Discussion

Transgender people are always oppressed due to gender inequality, which leads to an increase in their mental health problems.⁶⁴ Today, most transgender mental health studies focus on depression, anxiety, and suicidal ideation.⁶⁵ However, in the present study,

other psychological problems of these people were also discussed. One of the limitations of this study was the unavailability of the full text of some articles, which despite correspondence with the authors, unfortunately, the full text of their articles was not sent to our research team.

Conclusion

The results of the present study show that mental and behavioral disorders are much higher in transgender people than in the general population. The most common of these disorders included anxiety and depression, suicidal attempt, drug abuse, self-harming behavior regardless of suicidal intent, and HIV infection. These people are constantly harassed and abused by friends, acquaintances, classmates and teachers, and even their families. Numerous sexual partners increase the risk of HIV infection and other sexual misconducts. Therefore, it is necessary to prevent many of these behaviors by educating people in the community, especially those who are in direct contact with transgender people. Governments are also recommended to implement support programs for transgender people through training and counseling centers.

Conflict of Interest: None declared.

References

- 1 Castilla-Peón MF. Medical management of transgender children and adolescents. *Boletín médico del Hospital Infantil de México*. 2018;75(1):7-14.
- 2 Vance SR, Ehrensaft D, Rosenthal SM. Psychological and medical care of gender nonconforming youth. *Pediatrics*. 2014;134(6):1184-92.
- 3 Green EL, Benner K, Pear R. transgender. Could Be Defined Out of Existence Under Trump Administration, *The New York Times*. 2018.
- 4 Connolly MD, Zervos MJ, Barone II CJ, Johnson CC, Joseph CL. The mental health of transgender youth: Advances in understanding. *Journal of Adolescent Health*. 2016;59(5):489-95.
- 5 Marshall BD, Socías ME, Kerr T, Zalazar V, Sued O, Aristegui I. Prevalence and correlates of lifetime suicide attempts among transgender persons in Argentina. *Journal of Homosexuality*. 2016;63(7):955-67.
- 6 Delam H, Bazrafshan M-R. Anxiety and self-esteem score in adults with a suicide attempt history. *Journal of Health Sciences & Surveillance System*. 2019;7(4):166-70.
- 7 Bazrafshan M-R, Delam H. Evaluation of depression score in suicide attempters referring to hospitals affiliated to Shiraz University of Medical Sciences in 2018. *Journal of Health Sciences & Surveillance System*. 2019;7(4):194-8.
- 8 Atkinson SR, Russell D. Gender dysphoria. *Australian*

- family physician. 2015;44(11):792.
- 9 Bauer GR, Scheim AI, Pyne J, Travers R, Hammond R. Intervenable factors associated with suicide risk in transgender persons: a respondent driven sampling study in Ontario, Canada. *BMC public health*. 2015;15(1):525.
 - 10 Tucker RP. Suicide in transgender veterans: prevalence, prevention, and implications of current policy. *Perspectives on psychological science*. 2019;14(3):452-68.
 - 11 Sevlever M, Meyer-Bahlburg HF. Late-onset transgender identity development of adolescents in psychotherapy for mood and anxiety problems: approach to assessment and treatment. *Archives of sexual behavior*. 2019;48(7):1993-2001.
 - 12 Rood BA, Puckett JA, Pantalone DW, Bradford JB. Predictors of Suicidal Ideation in a Statewide Sample of Transgender Individuals. *LGBT health*. 2015;2(3):270-5.
 - 13 Selkie E, Adkins V, Masters E, Bajpai A, Shumer D. Transgender Adolescents' Uses of Social Media for Social Support. *The Journal of adolescent health : official publication of the Society for Adolescent Medicine*. 2020;66(3):275-80.
 - 14 Weiselberg EC, Shadianloo S. Overview of care for transgender children and youth. *Current Problems in Pediatric and Adolescent Health Care*. 2019;49(9).
 - 15 Peng K, Zhu X, Gillespie A, Wang Y, Gao Y, Xin Y, et al. Self-reported Rates of Abuse, Neglect, and Bullying Experienced by Transgender and Gender-Nonbinary Adolescents in China. *JAMA network open*. 2019;2(9):e1911058.
 - 16 Valentine SE, Shipherd JC. A systematic review of social stress and mental health among transgender and gender non-conforming people in the United States. *Clinical psychology review*. 2018;66:24-38.
 - 17 Veale JF, Peter T, Travers R, Saewyc EM. Enacted Stigma, Mental Health, and Protective Factors Among Transgender Youth in Canada. *Transgender health*. 2017;2(1):207-16.
 - 18 Su D, Irwin JA, Fisher C, Ramos A, Kelley M, Mendoza DAR, et al. Mental Health Disparities Within the LGBT Population: A Comparison Between Transgender and Nontransgender Individuals. *Transgender health*. 2016;1(1):12-20.
 - 19 Reisner SL, Biello KB, White Hughto JM, Kuhns L, Mayer KH, Garofalo R, et al. Psychiatric Diagnoses and Comorbidities in a Diverse, Multicity Cohort of Young Transgender Women: Baseline Findings From Project LifeSkills. *JAMA pediatrics*. 2016;170(5):481-6.
 - 20 Lytle MC, Blossich JR, Kamen C. The Association of Multiple Identities with Self-Directed Violence and Depression among Transgender Individuals. *Suicide & life-threatening behavior*. 2016;46(5):535-44.
 - 21 Clark TC, Lucassen MF, Bullen P, Denny SJ, Fleming TM, Robinson EM, et al. The health and well-being of transgender high school students: results from the New Zealand adolescent health survey (Youth'12). *Journal of Adolescent Health*. 2014;55(1):93-9.
 - 22 Nuttbrock L, Bockting W, Rosenblum A, Hwang S, Mason M, Macri M, et al. Gender abuse, depressive symptoms, and HIV and other sexually transmitted infections among male-to-female transgender persons: a three-year prospective study. *American journal of public health*. 2013;103(2):300-7.
 - 23 Poteat T, German D, Kerrigan D. Managing uncertainty: a grounded theory of stigma in transgender health care encounters. *Social science & medicine (1982)*. 2013;84:22-9.
 - 24 Nemoto T, Bödeker B, Iwamoto M. Social support, exposure to violence and transphobia, and correlates of depression among male-to-female transgender women with a history of sex work. *American Journal of Public Health*. 2011;101(10):1980-8.
 - 25 Faramarzian Z, Delam H, Habibikhah Z, Bazrafshan MR. Demographic characteristics of adolescents with a history of suicide attempt in Larestan, Iran: 2012-2018. *Payesh (Health Monitor)*. 2019;18(5):475-83.
 - 26 Taliaferro LA, McMorris BJ, Rider GN, Eisenberg ME. Risk and Protective Factors for Self-Harm in a Population-Based Sample of Transgender Youth. *Archives of suicide research : official journal of the International Academy for Suicide Research*. 2019;23(2):203-21.
 - 27 Kota KK, Salazar LF, Culbreth RE, Crosby RA, Jones J. Psychosocial mediators of perceived stigma and suicidal ideation among transgender women. *BMC Public Health*. 2020;20(1):125.
 - 28 Adams N, Hitomi M, Moody C. Varied reports of adult transgender suicidality: Synthesizing and describing the peer-reviewed and gray literature. *Transgender health*. 2017;2(1):60-75.
 - 29 Kattari SK, Bakko M, Hecht HK, Kattari L. Correlations between healthcare provider interactions and mental health among transgender and nonbinary adults. *SSM - population health*. 2020;10:100525.
 - 30 Chen R, Zhu X, Wright L, Drescher J, Gao Y, Wu L, et al. Suicidal ideation and attempted suicide amongst Chinese transgender persons: National population study. *Journal of Affective Disorders*. 2019;245:1126-34.
 - 31 Azeem R, Zubair UB, Jalil A, Kamal A, Nizami A, Minhas F. Prevalence of Suicide Ideation and its Relationship with Depression among Transgender Population. *Journal of the College of Physicians and Surgeons--Pakistan : JCPSP*. 2019;29(4):349-52.
 - 32 Kuper LE, Adams N, Mustanski BS. Exploring Cross-Sectional Predictors of Suicide Ideation, Attempt, and Risk in a Large Online Sample of Transgender and Gender Nonconforming Youth and Young Adults. *LGBT health*. 2018;5(7):391-400.
 - 33 Veale JF, Watson RJ, Peter T, Saewyc EM. Mental Health Disparities Among Canadian Transgender Youth. *The Journal of adolescent health : official publication of the Society for Adolescent Medicine*. 2017;60(1):44-9.

- 34 Perez-Brumer A, Day JK, Russell ST, Hatzenbuehler ML. Prevalence and Correlates of Suicidal Ideation Among Transgender Youth in California: Findings From a Representative, Population-Based Sample of High School Students. *Journal of the American Academy of Child and Adolescent Psychiatry*. 2017;56(9):739-46.
- 35 Kreiss JL, Patterson DL. Psychosocial issues in primary care of lesbian, gay, bisexual, and transgender youth. *Journal of pediatric health care : official publication of National Association of Pediatric Nurse Associates & Practitioners*. 1997;11(6):266-74.
- 36 Strauss P, Morgan H, Wright Toussaint D, Lin A, Winter S, Perry Y. Trans and gender diverse young people's attitudes towards game-based digital mental health interventions: A qualitative investigation. *Internet interventions*. 2019;18:100280.
- 37 James S, Herman J, Rankin S, Keisling M, Mottet L, Anafi Ma. The report of the 2015 US transgender survey. 2016.
- 38 Oransky M, Burke EZ, Steever J. An Interdisciplinary Model for Meeting the Mental Health Needs of Transgender Adolescents and Young Adults: The Mount Sinai Adolescent Health Center Approach. *Cognitive and Behavioral Practice*. 2019;26(4):603-16.
- 39 McDowell MJ, Hughto JMW, Reisner SL. Risk and protective factors for mental health morbidity in a community sample of female-to-male trans-masculine adults. *BMC psychiatry*. 2019;19(1):16.
- 40 Gower AL, Rider GN, Brown C, McMorris BJ, Coleman E, Taliaferro LA, et al. Supporting Transgender and Gender Diverse Youth: Protection Against Emotional Distress and Substance Use. *American journal of preventive medicine*. 2018;55(6):787-94.
- 41 Grant JM, Motter LA, Tanis J. Injustice at every turn: A report of the national transgender discrimination survey. 2011.
- 42 Reisner SL, White JM, Bradford JB, Mimiaga MJ. Transgender health disparities: comparing full cohort and nested matched-pair study designs in a community health center. *LGBT health*. 2014;1(3):177-84.
- 43 Grossman AH, D'Augelli AR. Transgender youth and life-threatening behaviors. *Suicide and Life-Threatening Behavior*. 2007;37(5):527-37.
- 44 Clements-Nolle K, Marx R, Katz M. Attempted suicide among transgender persons: The influence of gender-based discrimination and victimization. *J Homosex*. 2006;51(3):53-69.
- 45 Olson J, Schragger SM, Belzer M, Simons LK, Clark LF. Baseline Physiologic and Psychosocial Characteristics of Transgender Youth Seeking Care for Gender Dysphoria. *The Journal of adolescent health : official publication of the Society for Adolescent Medicine*. 2015;57(4):374-80.
- 46 Testa RJ, Sciacca LM, Wang F, Hendricks ML, Goldblum P, Bradford J, et al. Effects of violence on transgender people. *Professional Psychology: Research and Practice*. 2012;43(5):452-9.
- 47 Reisner SL, Juntunen CL. Non-suicidal self-injury in a large online sample of transgender adults. *Professional Psychology: Research and Practice*. 2015;46(1):3.
- 48 Jackman KB, Dolezal C, Levin B, Honig JC, Bockting WO. Stigma, gender dysphoria, and nonsuicidal self-injury in a community sample of transgender individuals. *Psychiatry research*. 2018;269:602-9.
- 49 Taliaferro LA, McMorris BJ, Eisenberg ME. Connections that moderate risk of non-suicidal self-injury among transgender and gender non-conforming youth. *Psychiatry research*. 2018;268:65-7.
- 50 Jackman K, Honig J, Bockting W. Nonsuicidal self-injury among lesbian, gay, bisexual and transgender populations: An integrative review. *Journal of Clinical Nursing*. 2016;25(23-24):3438-53.
- 51 Brennan SL, Irwin J, Drincic A, Amoura NJ, Randall A, Smith-Sallans M. Relationship among gender-related stress, resilience factors, and mental health in a Midwestern U.S. transgender and gender-nonconforming population. *International Journal of Transgenderism*. 2017;18(4):433-45.
- 52 Kaplan RL, El Khoury C, Wehbe S, Lize N, Mokhbat J. Pilot Results from the First HIV/AIDS Intervention Among Transgender Women in the Middle East: Gender Affirmation and Social Support from Within Trans Communities in Beirut, Lebanon. *AIDS research and human retroviruses*. 2020.
- 53 Operario D, Nemoto T. HIV in transgender communities: syndemic dynamics and a need for multicomponent interventions. *Journal of acquired immune deficiency syndromes (1999)*. 2010;55(Suppl 2):S91.
- 54 Nuttbrock L, Hwahng S, Bockting W, Rosenblum A, Mason M, Macri M, et al. Lifetime risk factors for HIV/STI infections among male-to-female transgender persons. *Journal of acquired immune deficiency syndromes (1999)*. 2009;52(3):417.
- 55 Nemoto T, Operario D, Keatley J, Han L, Soma T. HIV risk behaviors among male-to-female transgender persons of color in San Francisco. *American journal of public health*. 2004;94(7):1193-9.
- 56 Clements-Nolle K, Marx R, Guzman R, Katz M. HIV prevalence, risk behaviors, health care use, and mental health status of transgender persons: implications for public health intervention. *American journal of public health*. 2001;91(6):915.
- 57 Kosenko KA. Contextual influences on sexual risk-taking in the transgender community. *Journal of Sex Research*. 2011;48(2-3):285-96.
- 58 Poteat T, Scheim A, Xavier J, Reisner S, Baral S. Global epidemiology of HIV infection and related syndemics affecting transgender people. *Journal of acquired immune deficiency syndromes (1999)*. 2016;72(Suppl 3):S210.
- 59 Herbst JH, Jacobs ED, Finlayson TJ, McKleroy VS, Neumann MS, Crepaz N, et al. Estimating HIV prevalence and risk behaviors of transgender persons in the United States: a systematic review. *AIDS and Behavior*. 2008;12(1):1-17.

- 60 Baral SD, Poteat T, Strömdahl S, Wirtz AL, Guadamuz TE, Beyrer C. Worldwide burden of HIV in transgender women: a systematic review and meta-analysis. *The Lancet infectious diseases*. 2013;13(3):214-22.
- 61 Reback CJ, Fletcher JB. HIV prevalence, substance use, and sexual risk behaviors among transgender women recruited through outreach. *AIDS and Behavior*. 2014;18(7):1359-67.
- 62 Santos GM, Rapues J, Wilson EC, Macias O, Packer T, Colfax G, et al. Alcohol and substance use among transgender women in San Francisco: Prevalence and association with human immunodeficiency virus infection. *Drug and alcohol review*. 2014;33(3):287-95.
- 63 Nuttbrock L, Bockting W, Rosenblum A, Hwahng S, Mason M, Macri M, et al. Gender abuse, depressive symptoms, and substance use among transgender women: a 3-year prospective study. *American Journal of Public Health*. 2014;104(11):2199-206.
- 64 Scandurra C, Amodeo AL, Valerio P, Bochicchio V, Frost DM. Minority stress, resilience, and mental health: A study of Italian transgender people. *Journal of Social Issues*. 2017;73(3):563-85.
- 65 Oswalt SB, Lederer AM. Beyond depression and suicide: The mental health of transgender college students. *Social Sciences*. 2017;6(1):20.