



Daily Microaggressions and Related Distress among Black Women Living with HIV during the Onset of the COVID-19 Pandemic and Black Lives Matter Protests

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Abstract

Black women living with HIV (BWLWH) in the U.S. face microaggressions based on race, gender, HIV-status, and sexual orientation. We examined changes in daily microaggressions and related distress among 143 BWLWH in Miami, FL. Microaggression-related distress increased from 52% at baseline/October, peaked at 70% during the holidays (November/December), declined to 55% in March when COVID-19 social distancing began, and peaked to 83% in June/July 2020 during widespread Black Lives Matters protests. Baseline viral suppression was associated with lower microaggressions across the 9-months. Microaggression-related distress may change due to social context and research is needed on microaggressions and viral load overtime.

Keywords Black women living with HIV · Microaggression · COVID-19 · Black lives matter · Viral suppression

Resumen

Las mujeres de raza negra que viven con el VIH (MNVV) en los EE. UU. enfrentan microagresiones basadas en la raza, el género, el estado serológico del VIH y la orientación sexual. Examinamos los cambios en las microagresiones diarias y el estrés relacionado entre 143 MNVV en Miami, FL. El estrés relacionado con la microagresión aumentó del 52% en la línea de base/octubre, alcanzó un máximo del 70% durante las vacaciones (noviembre/diciembre), disminuyó al 55% en marzo cuando comenzó el distanciamiento social por el COVID-19 y alcanzó un máximo del 83% en junio/julio de 2020 durante las protestas generalizadas de Black Lives Matters. La supresión viral inicial se asoció con menores microagresiones durante los 9 meses. El estrés relacionada con la microagresión puede cambiar debido al contexto social y se necesitan investigaciones sobre las microagresiones y la carga viral con el tiempo.

Introduction

Black women represented over 60% of women living with HIV in the U.S. and Black women living with HIV (BWLWH) face unique adversities including microaggressions based on race, gender, HIV-status, and sexual orientation (for those who are sexual minorities) [1–3] that may negatively impact viral suppression via mental health struggles/distress and disruption of healthy behaviors (e.g. medication adherence) [1, 4]. Microaggressions are daily subtle insults, behaviors, and comments that are meant to devalue or demean marginalized groups [5–7]. Daily monitoring of microaggressions [8] and text-based ecological monetary assessments (EMA) [9, 10] have shown promising

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acceptability and feasibility in psychology, however it's not commonly used in the field of HIV [11]. Further, daily microaggressions among BWLWH and its relation to viral suppression remains understudied.

Being both Black and women, Black women experience gendered-racial microaggressions [12] which are insults at the intersection of both identities such as comments and jokes about their hair, body shape, facial features, voice level, temperament, etc. Examples of gendered racial microaggressions that Black women report include being accused of being angry when speaking in a calm manner, being told they are too assertive, and receiving negative comments when wearing their hair in its natural form [12]. As women living with HIV, Black women also experience microaggressions on the basis of their HIV status (such as having others suggest that they should not be having sex due to their HIV status) [13–15]. For BWLWH who are gay, bisexual, or queer they also face microaggressions based on their sexual orientation (e.g. being made to feel invisible or unwelcomed) [2, 6, 16].

Researchers examining the experiences of microaggressions, racism, and sexism have recognized the benefit of utilizing daily ecological monetary assessments (EMA) measures to better assess their frequency and associations with outcomes. For instance, scholars have used a daily diary methodology among African Americans to capture microaggressions and daily experiences with racism and found the method to be reliable and valid [8]. Phone technology has validly captured daily assessments of sexism [17] and of daily stressors among people living with HIV [11]. In addition, EMA approaches in the field of psychology have begun to improve our understanding of other stressors, emotions, and behaviors, but is still not commonly used in the HIV field [9, 10]. Such assessments are necessary to inform the development of EMA-based interventions (EMIs), which deliver psychological interventions via mobile devices while individuals are engaged in their daily lives [10] and show promise in existing literature.

There are no previously published studies examining microaggressions among BWLWH in relation to viral suppression. Studies primarily among Black and Latino MSM living with HIV have found that macro acts of discrimination (e.g. denied housing, denied employment, assault, destruction of property) based on race, HIV-status, and sexual orientation are negatively related to medication adherence, engagement in care, and viral suppression [18, 19]. Cross-sectional work among BWLWH has found associations between gendered racial microaggressions and HIV-related barriers to care engagement [4, 20]. While engagement in care and HIV medication adherence are necessary behaviors

in order to achieve viral suppression, ultimately viral suppression is the end goal [21]. However, to date no study among BWLWH have investigated nor linked viral suppression with microaggressions.

To our knowledge, this is the first study designed to assess the everyday experiences of microaggressions among BWLWH using a text-based ecological monetary assessment (EMA). Notably, data collection began/occurred over a time that allows for a look at microaggressions (and related distress) in the midst of social contexts such as the onset of COVID-19 in the U.S. in March 2020 and Black Lives Matters protests. In a sample of BWLWH we examine and present preliminary findings on (a) how daily microaggressions and distress change overtime, (b) how microaggressions relate to baseline demographics (e.g. income), viral suppression, and alcohol and substance use, and (c) how daily microaggressions and related distress are associated with self-reported medication adherence at three time points. Based on existing literature noted above we hypothesized that daily microaggressions would be inversely related to medication adherence and viral suppression, however our analyses of how daily microaggressions and related distress may change within social context (i.e. COVID-19, protests) was exploratory in nature. Findings may echo the importance of monitoring microaggressions among BWLWH.

Methods

Participants and Recruitment

Between October 2019 and January 2020, BWLWH in the Southeastern U.S. were recruited for a longitudinal study: Project MMAGIC (Monitoring Microaggressions and Adversities to Generate Interventions for Change). Recruitment efforts consisted of calling BWLWH from a list of BWLWH who previously gave consent to be contacted by the research program as well as distributing flyers and posters at community clinics and health centers, hospitals, community events, and community-based organizations. Once participants expressed interest, a phone screen was conducted to determine if they met the criteria to be scheduled for an in-person baseline visit. To be scheduled for a baseline visit, participants had to meet seven inclusion criteria: (1) Living with HIV, (2) Identify as Black and/or African American, (3) Age 18 or older, (4) Cis-gender woman, (5) English speaking, (6) Capable of completing and fully understanding the informed consent process and procedures, and (7) Own a cell phone with text and internet capacity.

At the baseline visit participants gave written informed consent, completed self-report instruments using the Research Electronic Data Capture (REDCap), and participated in a semi-structured clinical interview. Women were given a \$75 stipend and all study measures and procedures were approved by the Institutional Review Board of the University of Miami.

Measures

Sociodemographics

Women were asked to provide demographics including age, ethnicity, education, sexual orientation, and income.

Daily Microaggressions

Once per day women were sent a link via text message and once they opened the message and clicked on the link it took them to four short questions asking about whether they experienced any microaggressions: (1) In the last 24 h did someone do or say something subtle that insulted you or showed you less respect than other people? The participants chose either yes or no. If yes, additional questions were triggered. (2) Did the insult have to do with you being ___? Check all that apply (Black, a woman, a person living with HIV, gay or bisexual, or other). (3) As a result of these insults today, do you currently feel distressed, and if yes, (4) rate your distress on a scale from 0 to 100 where 100 is the worst you ever felt in your life and 0 is no distress at all. Data on daily microaggressions utilized here was gathered from baseline (October 2019) through July 2020.

HIV Viral Load (VL)

Blood specimens were collected at baseline to assay for viral load using the Roche COBAS AmpliPrep/COBAS TaqMan HIV-1 Test, v2.0. A viral load cutoff of <200 copies/ml is utilized in our analyses for viral suppression.

Alcohol and Substance Use

The Addiction Severity Index (ASI-LITE) [22] captured the frequency with which substances were used over the past 30 days and whether there was problematic use in one's lifetime.

HIV Medication Adherence

Self-reported adherence to HIV medication for the past week, past 2 weeks, and past 4 weeks was assessed at baseline (/visit 1) and follow up visits 2 and 3 (each follow-up is approximately 3 months apart). An item developed in previous studies of adherence [23, 24] was used to capture HIV medication adherence. 'Thinking about the past X weeks, how would you rate your ability to take all your medications as your doctor prescribed them?' Responses were on a 6-point Likert scale ranging from 1 = 'very poor' to 6 = 'excellent'.

Statistical Analysis

Using SAS 9.4, Logistic Time-Varying Effect Modeling (TVEM), a nonparametric approach (estimating the changing effect of a variable on an outcome over time) was used to model daily microaggressions and distress. TVEM estimates regression coefficients as continuous functions of time and in doing so, allows the examination of time-varying effects. Herein, the effect of time is allowed to change at each time and because time is treated as continuous, coefficients are not presented in tables but rather in figures that express the coefficient functions, along with pointwise confidence intervals. The coefficient functions are free to vary smoothly with time and are not assumed to follow any parametric form such as linear or quadratic. We used the b-spline method for model estimation, including a random effect for the intercept. Models with 1–5 knots for each daily-varying regression coefficient were run sequentially, with the final model selected based on the minimum AIC and BIC, thus optimizing the balance between model fit and parsimony. First, an intercept-only logistic TVEM was specified to estimate the rate of microaggressions and distress, respectively, as a function of time (days). Second, baseline measures of age, ethnicity, education, income, viral suppression, alcohol use, and substance use were added separately as time-invariant predictors of microaggressions so that the coefficient function represents in log-odds of microaggressions corresponding to each predictor at a particular day. Education (less than high school, high school graduate, and more than high school) and income (<\$5,000, \$5,000–\$11,999, and >\$12,000) were aggregated into the smaller categories noted for analyses. Third, negative binomial regression was also used to examine the association between the aggregated count of daily microaggression and daily distress with HIV medication adherence (at visits 2 and 3), respectively, with a generalized estimating equation (GEE) used to address repeated-measures within individuals. Note that viral load data was not available for analyses here as an outcome because COVID-19 resulted in the pausing of in

Table 1 Sociodemographics and characteristics among 143 BWLWH

	N	%/sd
Age (mean, sd)	53.5	10.5
Ethnicity		
Non-hispanic	138	96.5
Hispanic	5	3.5
Education		
Eighth grade or lower	5	3.5
Some high school	45	31.7
High school graduate or GED	56	39.4
Some college	23	16.2
College graduate	8	5.6
Some graduate school	2	1.4
Graduate school degree	3	2.1
Sex orientation		
Heterosexual	117	85.4
Same gender living (gay or lesbian)	4	2.9
Bisexual	12	8.8
Asexual	4	2.9
Income		
Less than \$5,000	33	26.2
\$5,000 through \$11,999	58	46.0
\$12,000 through \$15,999	11	8.7
\$16,000 through \$24,999	11	8.7
\$25,000 through \$34,999	6	4.8
\$35,000 through \$49,999	5	4.0
\$50,000 and greater	2	1.6
Housing		
Renting home or apartment	82	57.3
Living in home or apartment owned by you or else	17	11.9
Residential drug, alcohol or other treatment facility	2	1.4
Publicly subsidized housing	24	16.8
A friend or relative's home/apartment	10	7.0
Temporary/transitional housing	2	1.4
Homeless: sleeping in a shelter	5	3.5
Other	1	0.7
Employment		
Full time work	13	9.1
Part time work	12	8.4
Full time or part time in school	1	0.7
Neither in work nor in school	15	10.5
On disability	95	66.4
Other	4	2.8
I choose not to answer	6	4.2
Relationship Status	(N = 140)	
Married	17	12.1
Not married, but living with someone as if married	22	15.7
Non-cohabiting relationship (in a relationship but we do not live together)	13	9.3

Table 1 (continued)

	N	%/sd
Single	64	45.7
Divorced or separated	11	7.9
Loss of long-term partner/widowed	13	9.3
Viral suppressed	124	86.7
Problematic lifetime alcohol use	51	35.7
Any alcohol use (Past 30 days)	61	42.7
Problematic lifetime substance use (exclude alcohol)	89	62.2
Any substance use (Past 30 days, exclude alcohol)	62	43.4
Baseline-90 days follow-up (mean, sd)	(N = 143)	
Microaggressions	5.3	9.3
Black	1.6	3.4
Woman	2.1	4.2
Living with HIV	2.1	7.2
Gay/bisexual	0.2	0.9
Other	1.1	2.6
Distress	3.4	8.1
HIV medication adherence		
Past week	4.82	1.32
Past 2 weeks	4.78	1.32
Past 4 weeks	4.90	1.25
Follow-up (91–180 days) (mean, sd)	(N = 124)	
Microaggressions	4.1	11.1
Black	1.3	4.8
Woman	2.2	8.3
Living with HIV	1.6	8.1
Gay/bisexual	0.1	0.3
Other	0.4	1.1
Distress	2.4	8.3
HIV medication adherence		
Past week	4.92	1.36
Past 2 weeks	4.89	1.36
Past 4 weeks	4.93	1.30
Follow-up (181–270 days) (mean, sd)	(N = 114)	
Microaggressions	2.6	8.9
Black	1.2	7.3
Woman	1.2	5.9
Living with HIV	1.0	5.7
Gay/bisexual	0.0	0.1
Other	0.1	0.4
Distress	1.7	8.0
HIV medication adherence		
Past week	5.42	0.96
Past 2 weeks	5.46	0.94
Past 4 weeks	5.43	0.92

person research activities (e.g. blood collection) from March through September of 2020.

Results

Descriptives

One hundred and fifty one BWLWH were enrolled in MMAGIC and 143 BWLWH responded to the daily microaggression text at baseline (whose data is utilized here). Sample characteristics are presented in Table 1, but in brief, mean age was 53.5 years (range 21–69), 85.4% were

heterosexual, 64.8% had a high school diploma or above, and 86.7% were virally suppressed. Self-report medication adherence with a range of 1 (very poor) to 6 (excellent) was rated as 4.90 (baseline), 4.93 (visit 2), and 5.43 (visit 3) on average within the past 4 weeks. There were 17,097 valid daily microaggression logs from October 2nd, 2019 to July 14th, 2020. During the first 90 days follow-up, on average, there were 5.3 (sd=9.3) daily microaggressions reported and 74% of women reported microaggression-related distress during the first 90 days follow-up (see Table 1). From 91 to 180 days, the mean of daily microaggression and distress decreased compared to the first 90 days, and continued to decrease during days 181–270.

Microaggression as a Function of Time

The probability of daily microaggression and distress as a function of time (day) is shown in Fig. 1. The probability of daily microaggression was around 23% at baseline in October 2019, and decreased steadily to over 15% and remained flat around the holiday season (late November to December, 2019), then continued to decline to below 10% and remained flat with COVID-19 onset (after late March 2020). The probability of distress shows a different pattern where it increased from 52% and peaked at 70% during the holiday season (November to December 2019), then decreased steadily and bottomed around 55% at the start of the COVID-19 pandemic (March 2019), then began to increase rapidly to 83% through July 2020.

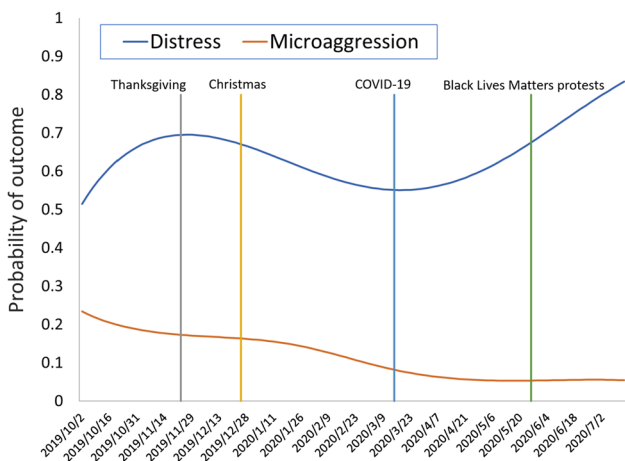


Fig. 1 Estimated probability of daily microaggressions and distress between October 2019 to July 2020

Table 2 Microaggressions, Distress, Viral Suppression, Substance Use, and Adherence

	Microaggression		Related distress	
	OR (95% CI)	p value	OR (95% CI)	p value
Age (1 year increase)	1.01 (0.98, 1.04)	0.6398	1.02 (0.99, 1.05)	0.3109
Ethnicity (ref = hispanic)	0.36 (0.05, 2.4)	0.2885	0.92 (0.23, 3.61)	0.9008
Education (ref = eighth grade or lower)	1.22 (0.92, 1.61)	0.1679	1.03 (0.78, 1.37)	0.836
Sex orientation (ref = heterosexual)	1.32 (0.7, 2.47)	0.389	1.27 (1, 1.63)	0.0516
Income (ref = less than \$5,000)	0.75 (0.56, 0.99)	0.045*	0.91 (0.7, 1.17)	0.4549
Viral suppressed (ref = no)	0.36 (0.14, 0.9)	0.0282*	1.08 (0.35, 3.38)	0.8938
Any alcohol use (ref = no)	0.63 (0.3, 1.34)	0.2308	1.38 (0.6, 3.15)	0.4517
Any alcohol use (Past 30 days) (ref = no)	1.04 (0.51, 2.12)	0.9039	2.71 (1.07, 6.83)	0.035*
Any substance use (exclude alcohol) (ref = no)	0.57 (0.26, 1.22)	0.1457	0.63 (0.28, 1.44)	0.2768
Any substance use (Past 30 days, exclude alcohol) (ref = no)	1 (0.48, 2.07)	0.9981	1.12 (0.51, 2.44)	0.7814
HIV medication adherence (ref = very poor)				
Past week	1.04 (0.98, 1.11)	0.2258	1.01 (0.9, 1.12)	0.9098
Past 2 weeks	1.03 (0.97, 1.1)	0.3019	1.04 (0.94, 1.16)	0.4513
Past 4 weeks	1.01 (0.95, 1.09)	0.6784	1.01 (0.92, 1.12)	0.7993

^aref = reference group for odds ratio calculations

* < .05

Microaggression, Viral Suppression, ART Adherence, Income, and Alcohol Use

Baseline viral suppression was associated with significantly lower odds of microaggressions (64%) compared to nonsuppression (OR = 0.36, 95% CI = 0.14, 0.90, p value = 0.028) (Table 2). Higher income at baseline was associated with lower odds of microaggressions (OR = 0.75, 95% CI = 0.56, 0.99, p value = 0.045) compared to lower income. In addition, alcohol use in the past 30 days (at baseline) was associated with higher odds of microaggression-related distress (OR = 2.71, 95% CI = 1.07, 6.83, p value = 0.035). Microaggressions and related distress were not significantly associated with self-reported HIV medication adherence.

Discussion

Project MMAGIC is the first study to capture daily microaggressions overtime among BWLWH and our preliminary findings on microaggressions between October 2019 and July 2020, indicated that microaggressions related distress may be impacted by social context. While the probability of microaggressions gradually decreased overtime, microaggression related distress had interesting points of decreases and increases. Microaggressions related distress increased around the holidays perhaps due to increased social gatherings/interactions. However, the distress decreased after the holiday season and flattened around mid-March which is consistent with when COVID-19 related social distance mandates were put in place and may have lessened the level of interaction BWLWH had with others outside their home. However, microaggression-related distress began to gradually increase April through May, perhaps as the toll of the pandemic (e.g. deaths, job losses) became more apparent in the U.S and with a disproportionate burden on Black communities [25, 26]. Microaggression-related distress peaked again in early June and persisted through July, a period which overlaps with the murder of George Floyd on May 25, 2020, followed by daily Black Lives Matter protests across the U.S. This backdrop may have intensified the distress resulting from microaggressions that BWLWH experienced.

Further our analyses examining how baseline viral suppression, income, and substance use related to microaggressions and related distress over the 9-month period indicated that baseline viral suppression and higher income was associated with less microaggressions, while baseline alcohol use was associated with higher microaggression related distress. We are unable to draw any causal or directional conclusions and we were limited in our analyses of viral suppression overtime (e.g. unable to treat viral suppression as an outcome due to COVID-related

in-person research suspension). In addition, microaggressions were not significantly related to self-reported medication adherence at follow up visits, perhaps due to limitations of a self-report measure and limited variation in women's scores (average was close to 5 [very good] at each visit).

Nonetheless, our preliminary significant findings indicate that there are potentially important bi-directional pathways that need to be considered and explored. Specifically, findings suggest that microaggressions and the related distress experienced and reported by BWLWH may vary as a result of income and alcohol use. Microaggressions and related distress as an everyday manifestation of oppression may negatively impact income and alcohol use [12]. Conversely, higher income may allow some women to select contexts/situations where they are less likely to experience microaggressions (e.g. driving alone in ones car vs. taking the bus/train). Similarly, alcohol use may suggest attempts at coping with already existing distress (due to stressors), that is then exacerbated and reported in response to a microaggression. The association between microaggressions and viral suppression is also complex, yet consistent with existing theories [6, 27], and suggests that microaggressions may relate to mental health symptoms and/or health behaviors, which ultimately relates to viral load among BWLWH. Alternatively, women with viral suppression may report less microaggressions, if viral suppression is also a proxy for uncaptured variables such as attention bias towards and recall of positives things, coping, or access to resources which may equip women to select contexts where they are less likely to experience microaggressions.

Despite these interesting findings there are a few limitations to note. First, longitudinal data prevents us from drawing causal conclusions. Second, data was collected among BWLWH in the Southeastern United States thereby limiting the generalizability to other geographic areas or other individuals living with HIV. Third, future work should capture other indicators of poverty beyond socioeconomic status. Fourth, our measures did not capture factors such as information on the clinics they attend for HIV care, types of jobs and housing, access to personal protective equipment (PPE), barriers to social distancing, and transportation barriers/access, which may all have implications for their engagement, adherence, and viral suppression in the context of COVID-19. Fifth, the absence of viral load data at visits 2 and 3, limits our examination of the relationship between viral load and microaggression to only baseline viral load. Lastly, the self-report medication adherence measure may have been impacted by social desirability bias (average close to 5 [very good] with limited variation) and as such did not serve as a good proxy for viral load at visits 2 and 3 in our analyses.

While our preliminary findings do not allow us to make causal conclusions, they do support the need for research to both assess microaggression among BWLWH overtime and examine its relationship with medication adherence, viral suppression, and other factors. In addition, our findings for both microaggression experience and related distress suggests that it is insufficient for research to capture microaggression experiences without also measuring related distress. Structural interventions (via policies and laws) are needed to reduce the microaggressions that BWLWH experience each day. In addition, research is needed to develop ecological momentary interventions among BWLWH to improve quality of life and health outcomes. For instance, at the individual level an ecological momentary intervention that both monitors microaggressions experienced by BWLWH (via text or a mobile app) and provides coping strategies (informed by BWLWH) may help to reduce the distress experienced from microaggressions and improve mental health and health behaviors (e.g. engagement in care and medication adherence) and ultimately viral suppression.

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Data Availability The data is not available at this time.

Code Availability The code is not available at this time.

Declarations

Conflict of interest Authors declare that they do not have conflicts of interest.

Consent for Publication No data nor image identifying an individual is published here.

Ethical Approval All procedures performed in this study involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards. Procedures were approved by the University of Miami Institutional Review Board.

Informed Consent Informed consent was obtained from all individual participants included in the study.

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