Violence and Discrimination Among Ugandan Residents During the COVID-19 Lockdown

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Research article

Keywords: COVID-19, lockdown, violence, discrimination, epidemic, Uganda

Posted Date: October 6th, 2020

DOI: https://doi.org/10.21203/rs.3.rs-79334/v1

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Version of Record: A version of this preprint was published on March 8th, 2021. See the published version at https://doi.org/10.1186/s12889-021-10532-2.
Abstract

**Background:** In March 2020, the World Health Organization (WHO) declared COVID-19 a pandemic. Many countries in Sub Saharan Africa, Uganda inclusive, implemented lockdowns, curfew, banning of both private and public transport systems and mass gatherings to minimize spread. Media reports indicated that cases of violence and discrimination had increased in Uganda's communities following the lockdown. We estimated the incidence and factors associated with experiencing violence and discrimination among Ugandans during the COVID-19 lockdown to inform control and prevention measures.

**Methods:** In April 2020, we conducted a cross-sectional study under the International Citizen Project (ICP) to assess adherence to public health measures and their impact on the COVID-19 outbreak in Uganda. We abstracted and analyzed data on violence and discrimination from the ICP study. We performed descriptive statistics for all the participants’ characteristics and created a binary outcome variable called experiencing violence and/or discrimination. We performed logistic regression analysis to identify the factors associated with experiencing violence and discrimination.

**Results:** Of the 1,726 ICP study participants, 1,051 (58.8%) were males, 841 (48.7%) were currently living with a spouse or partner, and 376 (21.8%) had physically attended work for more than 3 days in the past week. Overall, 145 (8.4%) experienced any form of violence and/or discrimination by any perpetrator, and 46 (31.7%) of the 145 reported that it was perpetrated by a law enforcement officer. Factors associated with experiencing violence or discrimination were: being male (AOR= 1.60 CI:1.10-2.33), having attended work physically for more than 3 days in the past week (AOR=1.52 CI:1.03-2.23), and inability to access social or essential health services since the epidemic started (AOR=3.10 CI:2.14-4.50).

**Conclusion:** A substantial proportion of Ugandan residents experienced violence and/or discrimination during the COVID-19 lockdown, mostly perpetrated by law enforcement officers. Mitigation of violence and/or discrimination, as well as increased access to health and social services should be integrated into control measures in large-scale public health emergencies.

**Background**

In March 2020, the World Health Organization (WHO) declared COVID-19 a pandemic [1]. At the time, there were more than 4,000 deaths due to COVID-19 and about 118,000 confirmed cases globally, and the disease had reached every continent except the Antarctica [2]. The COVID-19 preventive strategies instituted globally included: promotion of use of masks in public, frequent and proper hand washing and hygiene, and promotion of physical distancing. By April 2020, 43 of the 46 Sub Saharan African countries had reported confirmed cases of COVID-19—13 of them, Uganda inclusive, implemented nationwide lockdowns alongside other public health measures, while 10 countries implemented partial lockdowns in hotspots [3]. Some of the key preventive strategies in Uganda’s response to COVID-19 included
nationwide curfew from 6.30 am to 7 pm, banning of both private and public transport systems, and mass or social gatherings.

Violence has been reported across several countries, Uganda inclusive, because of the severe restrictions in the control of COVID-19 [4, 5]. According to the 2016 Uganda Demographic and Health Survey (UDHS), violence and discrimination among Ugandans, occurring in combination or isolation from each other in the 12 months preceding the survey was reported as physical violence (20%), sexual violence among women (13%) and among men (4%), and spousal violence (39%) for each of the sexes [6]. Potential influencers of violence and/or discrimination included age, sex, employment status, employed vs unemployed, education level, wealth status, rural vs urban settings, having a disability, race or ethnicity, lifestyle such as alcohol consumption, substance use and marital status among others [6, 7].

The COVID-19 preventive measures implemented in Uganda resulted in citizens spending more time in their respective homesteads, communities or neighborhoods. Media reports indicated that cases of domestic violence increased in the communities following the implementation of the lockdown [8]. Other forms of violence and discrimination such as brutality by law enforcement officers and discrimination were also reported [9]. In this study, we aimed to estimate the incidence and predictors of violence and discrimination among Ugandan residents during the initial phase (first two months) of the COVID-19 epidemic to inform control and prevention measures during similar epidemics.

**Methods**

**Study design and data source**

We conducted a cross-sectional study based on data collected by the International Citizen Project (ICP) to assess adherence to public health measures and their impact on the COVID-19 outbreak, initiated by an international group of researchers from Asian, African, South American, and European countries. The protocol and questionnaire for the ICP survey is largely based on the citizen science Corona survey first launched in Belgium by the university of Antwerp on March 17 2020, and adopted by 21 countries globally including Uganda in April 2020 [10]. The ICP project was implemented through a cross sectional survey design with an online questionnaire that had six modules: socio-demographics, daily and professional life during the COVID-19 lockdown, community and personal preventive measures for COVID-19 and personal health questions [10].

The questionnaire was deployed in Uganda on April 16, 2020 (day 22 of Uganda’s total lockdown) and circulated widely via email, WhatsApp, Facebook, and Twitter platforms. The survey collected responses from Ugandan residents nationwide until April 30, 2020.

**Study variables, data abstraction, and analysis**

For this study, we abstracted data from the ICP study data-Uganda on socio-demographics (including age, sex, religion, education, location, marital status and housing conditions), professional life during the
COVID-19 lock down (including ability to continue work, transportation means, and working conditions). We also considered data from participants’ responses on daily life during the COVID-19 lock down (including access to food, talking to other people, experiencing violence and discrimination, and being worried about their health), and personal health questions (including consumption of healthy foods and vitamins, developing flu like illnesses, smoking habits, having underlying disease or condition, and access to essential medications).

We extracted and cleaned the data using MS Excel 2019 and used STATA 14 for analysis. We performed descriptive statistics for all the participants’ characteristics. To identify the factors associated violence and discrimination, we created a binary outcome variable “experiencing violence or discrimination” integrating any form of violence and discrimination during the epidemic regardless of the perpetrator. The independent variables included socio-demographics including age, sex, religion, education level, marital status, housemates, age groups of housemates, urban vs semi urban and rural residence, housing conditions, occupation, working conditions, wealth index, other variables included number of days physically attended at work in past week, difficulty obtaining food and the level of satisfaction with staying at home, overall failure to access social and essential health services. We performed multivariate logistic regression analysis to identify the factors associated with experiencing violence and/or discrimination with a significance level of 0.05.

Results

Socio-demographic characteristics of study participants

Data from 1,726 ICP study respondents in Uganda were included in the analysis. The mean age of the participants was 36 years, age range 12 to 72 years. Overall, 58.8% (1,015/1,726) were males, and majority resided in Kampala city Centre or surrounding suburbs. Of note, almost half of the respondents (779/1,726 or 45.1%) reported not being able to access social services such as food and/or essential health services during the lockdown period. Other participant characteristics are summarized in Table 1.
Table 1
Socio-demographic characteristics of study participants

| Characteristic (N = 1,726)                     | Frequency | Percentage |
|-----------------------------------------------|-----------|------------|
| **Sex**                                       |           |            |
| Male                                          | 1,015     | 58.8       |
| Female                                        | 711       | 41.2       |
| **Age Group***                                |           |            |
| ≤ 17 years                                    | 12        | 0.7        |
| 18–28 years                                   | 445       | 25.8       |
| 29–39 years                                   | 706       | 40.9       |
| 40–49 years                                   | 347       | 20.1       |
| 50+ years                                     | 215       | 12.5       |
| **Maximum Education**                         |           |            |
| Primary & None                                | 3         | 0.2        |
| Secondary                                     | 63        | 3.7        |
| Tertiary (certificate, diploma, degree)       | 863       | 50.0       |
| University (masters & PhD)                    | 797       | 46.2       |
| **Nationality**                               |           |            |
| Ugandans                                      | 1,679     | 97.3       |
| Foreigners                                    | 47        | 2.7        |
| **Marital status**                            |           |            |
| Single                                        | 676       | 39.2       |
| Legally married                               | 754       | 43.7       |
| Cohabitation                                  | 247       | 14.3       |
| Divorced & Widowed                            | 49        | 2.8        |

* 1 missing value **days physically spent at work category 0–3 days includes those without employment
| Characteristic (N = 1,726) | Frequency | Percentage |
|---------------------------|-----------|------------|
| Currently lives with      |           |            |
| Parent (s)                | 307       | 17.8       |
| Spouse/partner            | 841       | 48.7       |
| Child (ren)               | 734       | 42.5       |
| Sibling (s) or other relative (s) | 447       | 25.9       |
| Friends                   | 115       | 6.7        |
| Alone                     | 247       | 14.3       |
| Lives with house mates in age-groups | | |
| Over 70 years             | 179       | 10.4       |
| Between 18 and 70 years   | 1,495     | 86.6       |
| 12 to 17 years            | 765       | 44.3       |
| Under 12 years            | 1,070     | 62.0       |
| Lives in:                 |           |            |
| Rural/village             | 189       | 11.0       |
| Within Kampala city center| 186       | 10.8       |
| Kampala suburb            | 688       | 39.9       |
| Other town/city center    | 329       | 19.1       |
| Other suburb              | 334       | 19.4       |
| Housing conditions        |           |            |
| House or apartment with garden | 697 | 40.4 |
| House or apartment No garden | 473 | 27.4 |
| Apartment with balcony    | 166       | 9.6        |
| Room                      | 108       | 6.3        |
| Apartment No balcony      | 259       | 15.0       |
| Hut, Shack & Homeless     | 23        | 1.3        |

*1 missing value **days physically spent at work category 0–3 days includes those without employment
| Characteristic (N = 1,726) | Frequency | Percentage |
|---------------------------|-----------|------------|
| **What they do for a living** |           |            |
| Student                   | 209       | 12.1       |
| Jobless                   | 124       | 7.2        |
| Self-employed             | 284       | 16.5       |
| Work for a person, institution or company | 731 | 42.4 |
| Work for the government   | 378       | 21.9       |
| **Current working conditions** |           |            |
| Worker from home          | 663       | 38.4       |
| Worker in an open space (market, shop, roadside, etc.) | 118 | 6.8 |
| Worker in a closed indoor space alone (office, etc.) | 192 | 11.1 |
| Worker in a closed indoor space with several others (office, etc.) | 300 | 17.4 |
| Not applicable (jobless or student) | 453 | 26.2 |
| **Days physically attended at work in past week** |           |            |
| 0–3 days                  | 1,350     | 78.2       |
| > 3 days                  | 376       | 21.8       |
| **Wealth Index**          |           |            |
| 1st Quintile (poorest)    | 352       | 20.4       |
| 2nd Quintile              | 339       | 19.6       |
| 3rd Quintile              | 368       | 21.3       |
| 4th Quintile              | 481       | 27.9       |
| 5th Quintile (richest)    | 186       | 10.8       |
| **Satisfied with staying at home (on a scale of 5)** |           |            |
| Not Satisfied (1)         | 134       | 7.8        |
| 2                         | 133       | 7.7        |
| 3                         | 348       | 20.2       |
| 4                         | 403       | 23.3       |
| Very Satisfied (5)        | 708       | 41.0       |

* 1 missing value **days physically spent at work category 0–3 days includes those without employment
| Characteristic (N = 1,726)                                      | Frequency | Percentage |
|---------------------------------------------------------------|-----------|------------|
| Has difficulty obtaining food                                 |           |            |
| Yes                                                           | 734       | 42.5       |
| No                                                            | 992       | 57.5       |
| Overall failure to access food and/or essential health services|           |            |
| Yes (were not able to access food and/or essential health services) | 779       | 45.1       |
| No                                                            | 947       | 54.9       |

* 1 missing value **days physically spent at work category 0–3 days includes those without employment

Incidence of violence and discrimination among study participants during the COVID-19 lockdown, April 2020

A total of 167 events of violence/discrimination were reported in our study. Overall, 8.4% (145/1,726) of the respondents experienced any form of violence and/or discrimination by any perpetrator during the COVID-19 epidemic in April 2020. The most frequently experienced discrimination was that related to one's social/economic status, reported by 82 (4.8%) participants (Table 2). Of note, 19 (13.1%) of the 145 victims of violence/discrimination reported more than one perpetrator. Law enforcement officers most often perpetrated the violence/discrimination, as they were incriminated in 59 (35.3%) of the 167 reported violent/discriminatory events (Fig. 1).
Table 2
Incidence of violence and discrimination among study participants during the COVID-19 lockdown, April 2020

| Characteristic (N = 1,726) | Frequency (Percentage) | 95% Confidence Interval |
|---------------------------|------------------------|-------------------------|
| **Forms of violence or discrimination reported in Uganda** | | |
| Physical violence at home | 21 (1.2) | 0.8–1.9 |
| Physical violence outside home | 41 (2.4) | 1.6–3.2 |
| Discrimination because of my social/economic status | 82 (4.8) | 3.8–5.9 |
| Discrimination because of my ethnicity, race or nationality | 23 (1.3) | 0.9–2.9 |
| **Overall experience of different forms of violence or discrimination** | | |
| Yes, only one form | 124 (7.2) | 6.1–8.5 |
| Yes, more than one form | 21 (1.2) | 0.8–1.9 |
| Yes, one or more forms | 145 (8.4) | 7.1–9.8 |
| No violence/discrimination | 1,581 (91.6) | 90.2–92.8 |

Factors associated with experiencing violence and/or discrimination among study participants during the COVID-19 lockdown, April 2020

At multivariate analysis, after adjusting for covariates, the odds of experiencing violence and/or discrimination were 1.60 times higher among males compared to females (Adjusted Odds Ratio = 1.60 CI:1.10–2.33). Moreover, having physically attended work for more than 3 days in the past week and inability to access social or essential health services since the epidemic started were also associated with higher odds for experiencing violence and/or discrimination (Table 3).
Table 3
Factors associated with experiencing violence and discrimination among Ugandans during the COVID-19 lockdown, April 2020

| Variable | Experienced violence or discrimination n = 145 (%) | Not experienced violence or discrimination n = 1581 (%) (ref) | Crude OR (95% CI) | Adjusted OR (95% CI) |
|----------|-------------------------------------------------|------------------------------------------------------------|------------------|---------------------|
| Days physically attended at work in past week | | | | |
| 0–3 days | 101 (69.4) | 1249 (79.0) | 1.00(ref) | 1.00(ref) |
| >3 days | 44 (30.3) | 332 (21.0) | 1.64 (1.13–2.3) | 1.52 (1.03–2.23) |
| Age Group | | | | |
| ≤ 17 years | 2(1.4) | 10(0.6) | 1.00(ref) | |
| 18–28 years | 45(31.0) | 400(25.3) | 0.62(0.13–2.9) | |
| 29–39 years | 66(45.5) | 640(40.5) | 0.57(0.12–2.61) | |
| 40–49 years | 20(13.8) | 327(20.7) | 0.34(0.07–1.62) | 0.33(0.65–1.64) |
| 50+ years | 12(8.3) | 203(12.8) | | |
| Sex | | | | |
| Male | 103(71.0) | 912(57.7) | 1.80(1.24–2.61) | 1.60(1.10–2.33) |
| Female | 42(29.0) | 669(42.3) | 1.00(ref) | 1.00(ref) |
| Maximum Education | | | | |
| Primary & None | 2(1.4) | 1(0.1) | 1.00(ref) | |
| Secondary | 7(4.8) | 56(3.5) | 1.00 | |
| Tertiary (certificate, diploma, degree) | 86(59.3) | 777(49.2) | 1.87(0.81–4.31) | |
| University (masters & PhD) | 50(34.5) | 747(47.3) | 1.65(1.15–2.38) | |
| Variable                                      | Experienced violence or discrimination n = 145 (%) | Not experienced violence or discrimination n = 1581 (%) (ref) | Crude OR (95% CI) | Adjusted OR (95% CI) |
|-----------------------------------------------|----------------------------------------------------|------------------------------------------------------------|-------------------|----------------------|
| **Marital status**                            |                                                    |                                                            |                   |                      |
| Single                                        | 58(40.0)                                           | 618(39.1)                                                  | 1.00(ref)         |                      |
| Legally married                               | 60(41.4)                                           | 694(43.9)                                                  | 1.64(0.55–4.86)   |                      |
| Cohabitation                                  | 21(14.3)                                           | 226(14.5)                                                  | 1.25(0.28–5.56)   | 0.99(0.59–5.66)      |
| Divorced & Widowed                            | 6(4.2)                                             | 43(2.7)                                                    |                   |                      |
| **Currently lives with**                      |                                                    |                                                            |                   |                      |
| Parent (s)                                    | 27(18.6)                                           | 280(17.7)                                                  | 1.10(0.6–1.75)    |                      |
| Spouse/partner                                | 65(44.8)                                           | 776(49.1)                                                  | 0.91(0.59–1.40)   |                      |
| Child (ren)                                   | 58(40.0)                                           | 676(42.8)                                                  |                   |                      |
| Sibling (s) or other relative (s)             | 36(24.8)                                           | 411(26.0)                                                  | 0.96(0.64–1.46)   |                      |
| Friends                                       | 15(10.3)                                           | 100(6.3)                                                    | 0.98(0.65–1.47)   |                      |
| Alone                                         | 122(84.1)                                          | 1357(85.8)                                                 |                   | 1.68(0.94–3.03)      | 1.00(ref)              |
| **Lives with house mates in age-groups**      |                                                    |                                                            |                   |                      |
| Over 70 years                                 | 32 (22.0)                                          | 147(9.0)                                                   | 1.33(1.13–1.58)   |                      |
| Between 18 and 70 years                       | 126 (87.0)                                         | 1369(86.0)                                                 | 1.00(ref)         |                      |
| 12 to 17 years                                | 67 (46.0)                                          | 698(44.0)                                                   | 1.04(0.92–1.18)   |                      |
| Under 12 years                                | 108(75)                                            | 962(61.0)                                                   |                   | 1.22(1.08–1.37)      |
| Variable                                      | Experienced violence or discrimination n = 145 (%) | Not experienced violence or discrimination n = 1581 (%) (ref) | Crude OR (95% CI) | Adjusted OR (95% CI) |
|-----------------------------------------------|---------------------------------------------------|-------------------------------------------------------------|-------------------|----------------------|
| **Lives in**                                  |                                                   |                                                             |                   |                      |
| Rural/village                                 | 27(18.6)                                          | 162(10.3)                                                   | 1.00(ref)         |                      |
| Within Kampala city center                    | 13(8.9)                                           | 173(10.9)                                                   | 0.60(0.35–1.06)   |                      |
| Kampala suburb                                | 30(20.7)                                          | 658(41.6)                                                   | 0.27(0.16–0.47)   |                      |
| Other town/city center                        | 44(30.3)                                          | 285(18.0)                                                   | 0.45(0.22–0.90)   |                      |
| Other suburb                                  | 31(21.4)                                          | 303(19.2)                                                   | 0.92(0.55–1.55)   |                      |
| **Housing conditions**                        |                                                   |                                                             |                   |                      |
| House or apartment with garden                | 44(30.3)                                          | 653(41.3)                                                   | 7.40(0.66–83.4)   |                      |
| House or apartment No garden                  | 37(25.5)                                          | 436(27.6)                                                   | 1.87(1.15–3.07)   |                      |
| Apartment with balcony                        | 29(20.0)                                          | 228(14.5)                                                   | 3.40(1.92–6.06)   |                      |
| Apartment No balcony                          | 21(13.8)                                          | 87(5.5)                                                     | 0.75(0.35–1.63)   |                      |
| A Room                                        | 7(4.9)                                            | 16(1.0)                                                     | 1.30(0.80–1.98)   | 1.00(ref)           |
| Hut, Shack & Homeless                         |                                                   |                                                             |                   |                      |
| **What they do for a living**                 |                                                   |                                                             |                   |                      |
| Student                                       | 23(15.9)                                          | 183(11.8)                                                   | 1.12(0.54–2.34)   |                      |
| Jobless                                       | 11(7.2)                                           | 113(7.6)                                                    | 1.00(ref)         |                      |
| Self-employed                                 | 28(19.3)                                          | 256(16.2)                                                   | 1.30(0.59–2.70)   |                      |
| Work for a person, institution or company     | 52(35.9)                                          | 679(43.0)                                                   | 0.80(0.4–1.55)    |                      |
| Work for the government                       | 31(21.4)                                          | 347(21.9)                                                   | 0.92(0.45–1.89)   |                      |
| Variable | Experienced violence or discrimination n = 145 (%) | Not experienced violence or discrimination n = 1581 (%) (ref) | Crude OR (95% CI) | Adjusted OR (95% CI) |
|----------|--------------------------------------------------|-------------------------------------------------------------|--------------------|----------------------|
| **Current working conditions** | | | | |
| Worker from home | 32(22.1) | 631(39.9) | 0.43(0.27–0.68) | |
| Worker in an open space (market, shop, roadside, etc.) | 23(15.9) | 95(6.0) | 0.72(0.39–1.31) | |
| Worker in a closed indoor space alone (office, etc.) | 15(10.3) | 177(11.2) | 0.83(0.51–1.37) | |
| Worker in a closed indoor space with several others (office, etc.) | 27(18.6) | 273(17.3) | 2.04(1.18–3.52) | |
| Not applicable (jobless or student) | 48(33.1) | 405(25.6) | 1.00(ref) | |
| **Wealth Index** | | | | |
| 1st Quintile (poorest) | 50(34.5) | 302(19.1) | 1.00(ref) | |
| 2nd Quintile | 31(21.4) | 308(19.5) | 0.61(0.38–0.98) | |
| 3rd Quintile | 33(22.8) | 335(21.2) | 0.59(0.37–0.95) | |
| 4th Quintile | 22(29.0) | 459(29.0) | 0.29(0.17–0.45) | |
| 5th Quintile (richest) | 9(6.2) | 177(11.2) | 0.31(0.15–0.64) | |
| **Satisfied with staying at home (on a scale of 5)** | | | | |
| Not Satisfied (1) | 23(15.9) | 111(7.0) | 1.00(ref) | |
| 2 | 23(15.9) | 110(6.9) | 1.10(0.53–1.90) | |
| 3 | 35(24.1) | 313(19.8) | 0.54(0.31–0.95) | |
| 4 | 28(19.3) | 375(23.7) | 0.36(0.20–0.65) | |
| Very Satisfied (5) | 36(24.8) | 672(42.5) | 0.26(0.15–0.45) | |
| Variable | Experienced violence or discrimination n = 145 (%) | Not experienced violence or discrimination n = 1581 (%) (ref) | Crude OR (95% CI) | Adjusted OR (95% CI) |
|----------|-------------------------------------------------|--------------------------------------------------|-------------------|---------------------|
| **Has difficulty obtaining food** | | | | |
| Yes | 100(69.0) | 634(40.1) | 3.32(2.30–4.80) | |
| No | 45(31.0) | 947(59.9) | 1.00(ref) | |
| **Overall failure to access food and/or essential health services** | | | | |
| Yes (were not able to access food and/or essential health services) | 102(70.3) | 677(42.8) | 3.20(2.20–4.60) | 3.10(2.14–4.50) |
| No | 43(29.7) | 90.4(57.2) | 1.00(ref) | 1.00(ref) |

**Discussion**

This study assessed the incidence and factors associated with experiencing violence and/or discrimination among Ugandan residents during the initial phase of the COVID-19 lockdown. Overall, 8.4% experienced any form of violence and discrimination during the one-month period of the lockdown. While this figure is lower than the 20% reported in the UDHS, it represents a high incidence of violence since the UDHS includes reports over a one-year period compared to the 8% in a period of one month in this study [6]. Although not assessed in this study, this high level of violence and discrimination could be attributed to stressors including long stay at home duration, frustration, boredom, inadequate supply of essential goods, and fear of infection due to the epidemic and the control measures with resultant job and income losses as well as law enforcement encounters [11].

This study reached the higher socio-economic and education participants—half had tertiary education while nearly the remaining half (46.2%) had post-tertiary level of education, 40.4% lived in a house or apartment with a garden, 59.0% were residing in Kampala city center or suburb, and only 7.2% were unemployed. Thus, the incidence of violence could be an underestimation since studies have shown that wealthy and highly educated individuals are less likely to experience violence and discrimination [12].

This high incidence of violence and discrimination from this survey agrees with the patterns reported around the world. In China, it was reported that domestic violence more than tripled during the lockdown in February, and 90% was related to the COVID-19 epidemic [13]. Brazil reported a 40–50% rise in domestic violence and a 30% increase was observed in Cyprus during their COVID-19 lockdowns [13].

Our findings show that law enforcement officers perpetrated more than one third of the reported violence and discrimination. To ensure compliance with COVID-19 preventive measures, strategies such as
curfews, banning of gatherings, and unnecessary movements were backed by heavy deployment of law enforcement officers such as police and local defense forces countrywide. Scuffles between the enforcement officers and the public more especially during the curfew hours were frequently cited in the local media reports during the COVID-19 epidemic [14]. The odds of experiencing any form of violence and discrimination were significantly higher among males compared with females. This differs from UDHS 2011 findings where women were twice more likely to experience violence and discrimination than their male counterparts [7]. In 2016 an almost similar proportion of Ugandan women (22%) experienced physical violence compared to men (20%) [6]. Experiencing violence and discrimination between males and females is often dependent on the form of violence, the perpetrator, the setting, and individual's characteristics. The highest homicide rates worldwide are among males while women are more likely to experience violence at home [15]. In our study, most of the violence and discrimination was perpetrated by law enforcement officers, which could explain why more men were affected—men are more likely to defy directives such as curfew, among others [6]. Similarly, individuals who had attended work physically for more than 3 days in the past week were more likely to experience any form of violence and discrimination and the violence mostly occurred outside of the home, also probably related to violation of the measures.

The odds of experiencing any form of violence and discrimination were higher for those who were unable to access social or essential services compared to those who were able to access them. These findings are in agreement with findings from quarantine experiences during a SARS outbreak in Canada in 2003 which indicated that having inadequate essential supplies such as food, water, clothes, accommodation and medicines was a major source of agitation and frustration in the communities [16]. The COVID-19 lockdown resulted in unanticipated and prolonged forced co-existence in the Ugandan homes and communities amidst the economic and financial frustration with struggles to access essential services and supplies which could have resulted in encounters with law enforcement in the curfew hours as well as disputes at household level [17].

Experiences from previous epidemics including Ebola, Zika, and SARS have shown that Public Health Emergencies tend to exacerbate existing health issues or related problems such as violence and discrimination. This highlights the need to integrate the tracking and mitigation of violence and discrimination in disease outbreak response [18].

**Study strengths and limitations**

The online approach skewed the study population to the higher socioeconomic respondents, who are less likely to experience violence or discrimination, and could potentially underestimate the level of violence. However, the findings still show high levels of violence, an important area with limited documentation and that requires attention during the ongoing COVID response.

**Conclusion**
The incidence of violence and discrimination among Ugandan residents during the COVID-19 lockdown was high and mostly perpetrated by law enforcement officers due to the strict lockdown measures. Males, individuals who had attended to work physically for more than 3 days in the past week and those who had difficulties accessing social or essential health services were more likely to experience violence/discrimination. Mitigation of violence should be integrated among the control measures in large-scale public health emergencies. More research is needed to explore alternative models of ensuring compliance to prevention measures in epidemics including models of risk communication and community mobilization.

**Abbreviations**

COVID-19: Corona Virus Disease 2019; HDREC: Higher Degrees, Research and Ethics Committee; ICP: International Citizen Project; MoH: Ministry of Health; SARS: Severe Acute Respiratory Syndrome; UDHS: Uganda Demographic and Health Survey; UNCST: Uganda National Council for Science and Technology; UPHFP: Uganda Public Health Fellowship Program; WHO: World Health Organization

**Declarations**

**Ethics Approval and consent to participate**

The ICP COVID study sought and obtained ethical approval from the Ethics committee of the University Hospital Antwerp and the University of Antwerp on 23rd March 2020, Protocol number 20/13/148. The study was also approved by the Higher Degrees, Research and Ethics Committee (HDREC) of the School of Public Health at Makerere University, with protocol number 809 on the 21st April 2020 and the Uganda National Council for Science and Technology. Participation in the survey was voluntary, participants were provided with an information sheet and their consent was sought electronically. Data collection procedures were totally anonymous, and data were stored in a secure, password-protected server in Belgium.

**Consent for publication**

Not applicable

**Availability of data and materials**

The datasets upon which our findings are based belong to the ICP COVID-19 project. For confidentiality reasons the datasets are not publicly available. However, the data sets can be availed upon reasonable request from the corresponding author and with permission from the ICP COVID-19 project.

**Competing interests**

The authors declare that they had no competing interests
Funding

This study was supported and designed by the International citizen project to assess adherence to public health measures and their impact on the COVID-19 outbreak (ICP COVID-19). The team of the ICP project provided technical guidance in the design of the study, ethical clearance and collection, analysis, and interpretation of data.

The Uganda study was also funded and supported by Makerere University School of Public Health, the Ministry of Health (MoH) and the Uganda Public Health Fellowship Program (PHFP). Makerere University School of Public Health, MoH and PHFP provided additional technical guidance in the design of the Ugandan study, ethical clearance and collection, analysis, and interpretation of data. The views and conclusions presented in this manuscript are those of authors and do not necessarily represent the official views of, Makerere University School of Public Health, PHFP or the MoH.

Authors’ contributions

Conceived and designed the study: ICP-COVID19 team, RC, JNSF and RKW: Analyzed, interpreted the data and wrote the first draft of the manuscript: EK, LB and BOA. Contributed substantially to analysis and interpretation of data: EK, BOA, RC, JNSF and LB. Critically reviewed the paper for important intellectual content: LB, ARA, RC, JNSF and RKW. All authors read and approved the manuscript.

Acknowledgements

We would like to acknowledge the University of Antwerp, and the entire team of the ICP-COVID-19 project for designing the protocol, questionnaire and managing the data. Makerere University School of Public Health, Uganda Ministry of Health, and the Uganda Public Health Fellowship Program for jointly supporting the design and dissemination of the Ugandan study.

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Perpetrators of violence/discrimination among Ugandan residents during the COVID-19 lockdown.

Perpetrators of violence/discrimination, number of cases of violence/discrimination events (N = 167 events), Law enforcement officers most often perpetrated the violence/discrimination (n=59), followed by other community members known to the victim (n=37), other community members unknown to the victim (n=30), family member within household (n=29) and other relative outside the household (n=12)
Supplementary Files

This is a list of supplementary files associated with this preprint. Click to download.

- STROBEchecklistcrosssectional.doc
- UgandaICPCOVIDquestionnaireV3.doc