Factors Associated With Poor Quality of Life of Transgender People

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Research Article

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Abstract

Background

The term transgender (TRANS) may be used for people whose gender identity differs from the one assigned at birth. A large part of this population segment faces social (lack of social support, discrimination, rejection, transphobia) and psychological (anxiety, depression) challenges. These factors, in turn, may negatively impact the quality of life (QoL) of these individuals. The aim of this study is to identify factors that influence the quality of life of transgender people when compared with cisgender people (CIS).

Methods

Cross-sectional case-control study with non-probability sample, conducted with transgender and cisgender adults living in a southeastern Brazilian state. The research questionnaire was accessed electronically and comprised sociodemographic, health, and QoL information. QoL was assessed through the Short-Form 6 dimensions (SF-6D) instrument. Multivariate logistic regression was used to verify the participation of the independent variables in QoL. Odds ratio (OR) values and their respective confidence intervals (CI) were estimated. The analyses were carried out in the SPSS® software, version 22.0, with a significance level of 5%.

Results

The sample included 65 transgender and 78 cisgender individuals. The cisgender group showed a predominance of people with higher education ($p = 0.002$) and higher income ($p = 0.000$) when compared with the transgender group. Transgender participants had worse QoL score ($p = 0.014$) and the same was observed when QoL was assessed by dimension ($p \leq 0.05$). In addition, having an income between 1 to 3 minimum wages (MW) reduced by 94.6% (OR = 0.054, CI = 0.004–0.707, $p = 0.026$) the chances of having better QoL, when compared with those with income higher than 3 MW. Living in the state's capital reduced the chances of having better QoL by 96.2% (OR = 0.038, CI = 0.004–0.387, $p = 0.006$) when compared with those living in the countryside.

Conclusion

The transgender population showed worse QoL when compared with the cisgender population, with income and place of residence being the factors that influenced this indicator.

Background

The term transgender (TRANS) may be used for people whose gender identity differs from the one assigned at birth.[1] A large part of this population segment faces social (lack of social support, discrimination, rejection, transphobia) and psychological (anxiety, depression) challenges.[2,3] These factors, in turn, may negatively impact the quality of life (QoL) of these individuals.(2)

QoL is a complex term that includes mental health, well-being, physical and/or social function, happiness, and satisfaction. It can be described as quality or satisfaction regarding living conditions, or a combination of these factors.[4] Several instruments have been developed to measure the QoL level of populations. Among them, the SF-6D, derived from the SF-36 questionnaire, is used to describe health states and assesses six dimensions: functional capacity, social aspects, physical and emotional aspects, pain, mental health, and vitality.[5] The score derived from this tool represents the strength of an individual's preference for a given health state.[4,6]

The health of TRANS people is related to unique vulnerabilities that include history of negative health care experiences, lack of access to legal gender recognition, and determinants of health such as employment status, income, age and social support, and strategies that improve these factors can improve health and QoL of TRANS people.[7] The psychological well-being of the TRANS population is strongly associated with better housing conditions, having a job, and higher education. Factors such as employment, education, residence, economic status, and therapeutic intervention are associated with the QoL of the TRANS population.[8] However, there is no consensus on the factors that impact the QoL of this population, and understanding such elements may help identify health care and needs specific to the TRANS population. In this context, the aim of this study is to identify factors that influence the QoL of TRANS people when compared with CIS.

Methods

The present study has a cross-sectional, case-control design with non-probability snowball sampling, involving the TRANS and CIS population living in a southeastern Brazilian state (Espírito Santo). As inclusion criteria, the individuals should be older than 18 years old, self-identify as belonging to the TRANS universe and/or identify themselves as CIS, and be residents of the State of Espirito Santo. For the TRANS population, the invitation to participate in the study was initially made through an electronic link disseminated on the Internet through digital media such as social networks aimed at the LGBTQI+ segment. he CIS population – the control group – was similarly recruited through an electronic link via social media. The volunteers answered questionnaires constructed by the researchers via the Google Forms® platform between March and October 2021. The first part of the form consisted of the Informed Consent Form in which the study objectives and procedures were presented; it also clarified risks and benefits and included other relevant information about the study.

Next, information about their identification (e-mail and place of residence, whether in the countryside or in the state's capital), sociodemographic characteristics (race/color according to the Brazilian Institute of Geography and Statistics – IBGE[9]; age; biological sex; gender identity; schooling, divided into complete

elementary school, complete high school, complete higher education, and post-graduation; marital status as single and stable union; occupation, divided into student, employed, and unemployed; family income in Brazilian reais (BRL) or categorized as < 1 minimum wage (MW), 1 to 3 MW, and ≥ 3 MW), health (presence of comorbidities; history of surgeries; use, type and time of hormone therapy; medical follow-up; follow-up with other health professionals such as nutritionist, speech therapist, psychologist/psychiatrist and more than one professional; system in which he/she does follow-up – if public, private or both; use of psychiatric or other medications; smoking; body weight; height; experience of prejudice; situations faced in the health environment; and health demands such as the need for surgery and specialized care). Nutritional status was assessed through body mass index (BMI) using the World Health Organization (WHO) criteria.

The health questionnaire was adapted for the CIS population since some questions such as use of hormone therapy, time of hormone therapy, and surgery for sexual reassignment do not apply to this population. This study was submitted to and approved by the Research Ethics Committee (CEP) of the Federal University of Espírito Santo (UFES), CAAE No. 36320620.6.0000.5060 and opinion No. 4.896.835. And informed consent to participate in the evaluation research was obtained from all participants.

Quality Of Life Assessment

The SF-6D questionnaire is used to describe health states and generate utility indices, evaluating six dimensions: functional capacity (six levels), social aspects (five levels), global limitation (four levels), pain (six levels), mental health (five levels), and vitality (five levels). The score generated by the questionnaire represents the strength of an individual's preference for a given health state, ranging from 0 to 1 on a scale in which zero equals the worst health state and 1 means the best health state.[5] SF-6D scores were obtained according to the recommendation of CRUZ et al.[6]

Statistical Analysis

The Shapiro-Wilk test was used to evaluate the normality of the data. Medians (minimum and maximum) and relative and absolute frequencies for categorical variables were used for continuous variables. The Mann-Whitney's U test was used to analyze differences between the medians of independent variables. To verify the difference between parametric variables expressed as means and standard deviations, we used the Student's t-test. The chi-square(X^2) test was used to evaluate differences between proportions. To quantify the participation of the independent variable in the outcome of interest in the TRANS group, multivariate crude and adjusted logistic regression analysis was performed. Model 1 was adjusted for prejudice and model 2 was adjusted for prejudice and gender identity type. All variables that showed $p < 0.05$ in the bivariate analyses were included in the final model. Odds ratio values and their respective confidence intervals (CI) were estimated. All analyses were performed in the SPSS® (Statistical Package for the Social Sciences) software, version 22.0. The significance level for all tests was set at 5%.

Results

The sample included 65 individuals self-declared as TRANS. Of these, 42 were TRANS men, 11 were TRANS women, and 11 were non-binary. The CIS group included 78 individuals who self-declared as CIS, among whom22 were CIS men and 56 were CIS women. The median age in the TRANS group was 24 years (18-44) and in the CIS group, 23.5 years (19-55) ($p>0.05$). The total income of the TRANS group was lower than that of the CIS group – 2200 BRL(300-10000) and 5000 BRL(1100-30000) ($p<0.001$), respectively. A significant difference was still observed between the groups regarding schooling, in which the CIS group showed a predominance of people who had completed higher education when compared with the TRANS group ($p=0.002$) (Table 1).

Table 1. Sociodemographic characteristics of transgender and cisgender population of a southeastern Brazilian state.

Variables	All N=143 (%)	Transgender N=65 (45.5%)	Cisgender N=78 (54.5%)	p
Age[a,c]	24 (18 – 57)	24.0 (18 – 44)	23.5 (19 – 57)	0.852[d]
Biological sex				0.360
Male	36 (25.2)	14 (21.5)	22 (28.2)	
Female	107 (74.8)	51 (78.5)	56 (71.8)	
Race				0.353
White	63 (44.0)	28 (43.0)	35 (44.9)	
Black	20 (14.0)	12 (18.5)	8 (10.3)	
Brown	60 (42.0)	25 (38.5)	35 (44.9)	
Occupation				**0.012**
Student	59(41.3)	25 (38.5)	34 (43.6)	
Employee	77(53.8)	33 (50.8)	44 (56.4)	
Unemployed	7 (4.9)	7 (10.8)	0	
Income[b,c]	3300 (300 – 30000)	2200 (300 – 10000)	5000 (1100 – 30000)	**<0.001[d]**
Schooling				**0.002**
Complete elementary School	6 (4.2)	6 (9.2)	0	
Complete high School	89(62.2)	46 (70.8)	43 (55.1)	
Complete higher education	41 (28.7)	11 (16.9)	30 (38.5)	
Complete post-graduation	7 (4.9)	2 (3.1)	5 (6.4)	
Marital Status				0.574
Single	113 (79.0)	50 (76.9)	63 (80.8)	
Stableunion	30(21.0)	15 (23.1)	15 (19.2)	
Place of residence[a]				0.279
State's capital	100(70.4)	48 (75.0)	52 (66.7)	

Countryside	42(29.6)	16 (25.0)	26 (33.3)

[a]N=142. [b]N=126. [c]Median (minimume maximum). Chi-square test(X^2). [d]U of Mann-Whitney test**. Values in bold are less than 0.05**

The TRANS group reported having had a greater number of medical follow-ups or with other health professionals in the Brazilian National Health System – SUS ($p<0.001$) when compared with CIS individuals (Table 2). As for the data on the follow-up with other health professionals besides the physician, we observed a higher number of TRANS people within this category than CIS individuals($p\leq0.001$), which reflects the care with a psychologist and/or psychiatrist in the TRANS group ($p\leq0.001$). In addition, the CIS group had fewer comorbidities when compared with the TRANS group ($p\leq0.001$) (Table 2). Regarding the prejudice suffered, the TRANS group was more affected when compared with the CIS group ($p<0.001$). There was also a difference between the groups regarding smoking, with a higher number of smokers in the TRANS group ($p\leq0.001$) (Table 2).

Table 2. Health characteristics of thetransgender and cisgender population of a southeastern Brazilian state.

Variables	All N=143 (%)	Transgender N=65 (45.5%)	Cisgender N=78 (54.5%)	p
Comorbidities				**0.001**
Yes	25 (17.5)	19 (29.2)	6 (7.7)	
No	118 (82.5)	46 (70.8)	72 (92.3)	
Medical follow-up				0.424
Yes	80 (55.9)	34 (52.3)	46 (59.0)	
No	63 (44.1)	31 (47.7)	32 (41.0)	
Professional health follow-up[a]				**<0.001**
Psychologist/Psychiatrist	33 (24.3)	21 (35.0)	12 (15.8)	
Nutritionist	7 (5.1)	3 (5.0)	4 (5.3)	
Speech therapist	2 (1.5)	1 (1.7)	1 (1.3)	
Others	10 (7.4)	3 (5.0)	7 (9.2)	
With more thanone professional	22 (16.2)	17 (28.3)	5 (6.6)	
None	62 (45.6)	15 (25.0)	47 (61.8)	
Professional follow-up[b]				**<0.001**
Sim	73 (54.1)	44 (74.6)	29 (38.2)	
Não	62 (45.9)	15 (25.4)	47 (61.8)	
Follow-up system[c]				**<0.001**
Public	45 (31.9)	31 (49.2)	14 (17.9)	
Private	52 (36.9)	17 (27.0)	35 (44.9)	
Both	44 (31.2)	15 (23.8)	29 (37.2)	
Medication[d]				**0.040**
Psychiatricmedications	16 (11.3)	11 (16.9)	5 (6.5)	
None	96 (67.6)	45 (69.2)	51 (66.2)	
Others	30 (21.1)	9 (13.8)	21 (27.3)	
Smoking				**<0.001**
Yes	24 (16.8)	20 (30.8)	4 (5.1)	

No	100 69.9)	30 (46.2)	70 (89.7)	
Recently stopped	19 (13.3)	15 (23.1)	4 (5.1)	
Prejudice				**<0.001**
Yes	93 (65.0)	58 (89.2)	35 (44.9)	
No	50 (35.0)	7 (10.8)	43 (55.1)	
Situations faced in the health environment				**0.004**
Stigma/prejudice	17 (11.9)	12 (18.5)	5 (6.4)	
Shortage of qualified professionals	82 (57.3)	41 (63.1)	41 (52.6)	
None	44 (30.8)	12 (18.5)	32 (41.0)	
Health demands[e]				**0.001**
Surgical need	4 (6.5)	4 (8.5)	0	
Hormone therapy	8 (12.9)	8 (17.0)	0	
Specialized care	46 (74.1)	35 (74.5)	11 (73.3)	
None	4 (6.5)	0	4 (26.7)	
Nutrition status[f]				0.321
Low weight	9 (6.4)	6 (9.5)	3 (3.9)	
Eutrophy	71 (50.7)	29 (46.0)	42 (54.5)	
Overweight	60 (42.9)	28 (44.4)	32 (41.6)	

[a]N=136; [b]N=135; [c]N=141; [d]N=142; [e]N=62; [f]N=140. Chi-square test(X^2). **Values in bold are less than 0.05**

Regarding the health characteristics of the TRANS population, we observed that 61.9% (n=26) of the TRANS men and 75% (n=9) of the TRANS women use hormone therapy (Table 3). When TRANS men, TRANS women, and non-binary individuals are compared regarding over-the-counter hormone therapy, a significant difference was observed between groups (p=0.048). TRANS men make more use of over-the-counter hormone therapy (n=15) than the other groups (Table 3).

Table 3. Characteristics of health conditions of the transgender of population of a southeastern Brazilian state.

Variables	All N=65 (%)	Trans MAN N=42 (64.6%)	Trans WOMAN N=12 (18.5%)	Non-binary N=11 (16.9%)	P
Hormonetherapy					**0.002**
Yes	36 (55.4)	26 (61.9)	9 (75.0)	1 (9.1)	
No	29 (44.6)	16 (38.1)	3(25.0)	10 (90.9)	
Time of use of hormone therapy[a]					**0.001**
< 6 months	2 (5.6)	1 (3.8)	0	1 (100)	
Between 6 months to 2 years	15 (41.7)	12 (46.2)	3 (33.3)	0	
> 2 years	19 (52.8)	13 (50.0)	6 (66.7)	0	
Type of hormone therapy[b]					**<0.001**
Estrogen	2 (6.1)	0	2 (33.3)	0	
Antiandrogen	4 (12.1)	0	4 (66.7)	0	
Testosterone	27 (81.8)	26 (100)	0	1 (100)	
Hormone therapy with out a prescription					**0.048**
Yes	23 (35.4)	15 (35.7)	7 (58.3)	1 (9.1)	
No	42 (64.6)	27 (64.3)	5 (41.7)	10 (90.9)	
Time of use of hormone therapy[b]	33.5 (4 – 276)	25.5 (4 – 96)	36 (12 – 276)	-	0.166[e]
Surgical procedure[c]					0.419
Yes	8 (12.5)	6 (41.3)	2 (16.7)	0	
No	56 (87.5)	36 (85.7)	10 (83.3)	10 (100)	
Nutritional Status[d]					0.865

Lowweight	6 (9.5)	3 (7.4)	1 (9.0)	2 (18.1)
Eutrophy	29 (46.0)	19 (46.3)	5 (45.5)	5 (45.5)
Overweight	28 (44.4)	19 (46.3)	5 (45.5)	4 (36.4)

[a]N=36; [b]N=35; [c]N=64; [d]N=63. Chi-square test(X^2). [e]U of Mann-Whitney test. **Values in bold are less than 0.05**

When assessing QoL, we observed that the CIS group showed better QoL when compared with the TRANS group (p=0.014). When assessing QoL by dimension, a significant difference between groups was detected for all dimensions: functional capacity (p<0.001), global limitation (p=0.007), social aspects (p≤0.001), pain (p<0.001), mental health (p<0.001), and vitality (p=0.023) (table 4).

Table 4. Quality of life score (SF-6D) and quality of life dimension scores for transgender and cisgender populations.

Variables	**Cis**	**Trans**	
	Median (Min - Max)	**Median (Min – Max)**	**p**
Score of QoL	0.834 (0.721 – 1.00)	0.749 (0.627 – 0.929)	**0.014**
Dimensions			
Functional capacity	0.00 (-0.05 – 0.00)	-0.51 (-0.05 – 0.00)	**<0.001**
Global limitation	0.00 (-0.05 – 0.00)	-0.48 (-0.05 – 0.00)	**0.007**
Social aspects	-0.03 (-0.06 – 0.00)	-0.04 (-0.07 – 0.00)	**<0.001**
Pain	-0.06 (-0.06 – 0.00)	-0.06 (-0.09 – 0.00)	**<0.001**
Mental health	-0.47 (-0.07 – 0.00)	-0.47 (-0.07 – 0.00)	**<0.001**
Vitality	-0.03 (-0.05 – 0.00)	-0.03 (-0.05 – -0.03)	**0.023**

QoL= quality of life. Chi-square test(X^2). **Values in bold are less than 0.05**

The sociodemographic and health data distributed according to the median QoL score are presented in Supplementary Table 1 (TS1). The median QoL scores were 0.834 (0.721-1.00) for the TRANS group and 0.749 (0.627-0.929) for the CIS group (TS1). CIS participants scored better on QoL and had lower age (24.2±4.3 years; p≤0.05), body weight (63.7±13.4 kg; p≤0.05), and BMI (22.9±3.2 kg/m²; p≤0.001) than TRANS individuals. When checking the data for the TRANS population, we found that those with higher QoL scores had an income ≥3 MW (n=17; 77.3%) (p≤0.05), no comorbidities (n=27; 58.7%) (p≤0.05), lived in the countryside (n=13; 81.3%) (p≤0.05), and did not suffer prejudice (n=6; 85.7%) (p≤0.05) (TS1).

From the multivariate logistic regression analysis of the data of the TRANS population adjusted for prejudice and gender identity, we observed that having an income of 1 to 3 MW reduces the chances of having a better QoL by 94.6% (OR=0.054, CI=0.004-0.707, p=0.026) when compared with those with income above 3 MW. Similarly, living in the state's capital reduces by 96.2% (OR=0.038, CI=0.004-0.387, p=0.006) the chances of having a better QoL when compared with those who live in the countryside (Table 5).

Table 5: Logistic regression models for quality of life in the transgender population.

Variables	OR raw (CI95%)	p valor	OR Model 1(CI95%)[a]	p valor	OR Model 2 (CI95%)[b]	p valor
Income						
≥3 MW	1		1		1	
<1 MW	0.171 (0.040 – 0.737)	**0.018**	0.195 (0.044 – 0.868)	**0.032**	0.054 (0.004 – 0.707)	**0.026**
Comorbidities						
No	1		1		1	
Yes	0.297 (0.059 – 1.487)	0.140	0.394 (0.075 – 2.052)	0.268	0.128 (0.015 – 1.072)	0.058
City						
Countryside	1		1		1	1
State's capital	0.057 (0.006 – 0.532)	**0.012**	0.053 (0.006 – 0.494)	**0.010**	0.038 (0.004 – 0.387)	**0.006**

[a]Model 1: Adjusted for prejudice; [b]Model 2: Adjusted for prejudice and gender identity; OR: odds ratio; CI: confidence intervals; MW: minimum wage. **Values in bold are less than 0.05**

Discussion

Our results show that the TRANS group presents less QoL when compared with the CIS group. Significant differences were observed in relation to QoL dimensions between groups. This result is consistent with a previous study, who assessed QoL through the SF-36 questionnaire and identified lower QoL in the dimensions physical functioning, social functioning, and function limitations due to physical health and vitality for the TRANS group when compared with the control group.[8]

In the present study, the median quality of life score for the TRANS group was 0.834. Individuals who received lower scores had lower income, comorbidities, and lived in the state's capital. Previous studies have also shown that 44% of trans people reported QoL scores below the median cut-off value of 6 (scale from0 to 10).[7] A systematic review concluded that trans people have low QoL, regardless of the domain.[2] In addition, transgender persons report worse QoL in relation to mental health when compared with the general population.[2]

Another study observed that the discrimination reported by the TRANS group was significantly associated with worse QoL in the social and environmental domains, and that this evidence shows a negative association between discrimination and indices of well-being.[10] Violent and non-violent discrimination experienced by TRANS persons is associated with adverse mental health outcomes, such as depression, anxiety, psychological distress, and substance abuse[11,12], which damage the emotional state and life of these persons.[11] These results corroborate our outcomes, by pointing out that not suffering prejudice was significantly related to a higher QoL score in TRANS individuals.

In the present study, TRANS volunteers living in the countryside reported having better QoL. In fact, logistic regression analysis revealed that living in the state's capital reduces the chances of having better QoL by 96.2%. Access to health care may be one explanation for this result. Despite the fact that TRANS persons face barriers in the access to health care,[13] data from IBGE show that people who live in the countryside have a higher percentage (77.0%) of health care services, totaling 3.5 million people.[14] Previous studies have evaluating the QoL of TRANS persons in a clinic located in a rural area, observed a significantly lower score in mental health, social, and emotional functioning domains. On the other hand, they found higher scores in the domains physical functioning, pain, and general health for the TRANS population when compared with the general population.[15]

TRANS persons have lower levels of employment and household income when compared with CIS persons[16]. Our results showed that having an income between 1 to 3 MW reduced the chances of having a better QoL by 94.6% for the TRANS population. This information is consistent with data from a previous study, which observed lower QoL scores for TRANS persons who were unemployed and had a low family income.[17] Another study pointed out that 47.5% of TRANS people had household incomes at

or below the poverty level when compared CIS people.[18] In addition, TRANS adults are more likely to be unemployed and living on a lower income than non-Trans.[19]

There are several factors that contribute to unemployment and lower income in TRANS people, such as employer discrimination, mental health conditions, and gender-conflicting name.[20] Therefore, it is necessary to develop public policies that ensure the inclusion of this population in the formal labor market. These policies should also ensure the permanence in employment and the creation of a safe environment where these people feel respected and included, both in the labor market and in society.

This study has some limitations. First, because this is a cross-sectional study in which both exposure and outcome are assessed at a single moment in time, it is difficult to establish atemporal relationship between the events and the degree of certainty in the causality of the relationship between them. Another important limitation is related to the small sample size, which, not being representative of the state population, allows us to consider the results found only for the population in question. However, to increase the sample size, a CIS control group with the same characteristics as the TRANS group was used. Finally, since the SF-6D questionnaire has not been used previously to assess the QoL of the TRANS population, we cannot compare the results of our study with any other study for this population. However, we did consider studies that assessed QoL with other instruments such as the SF-36, which is the instrument from which the SF-6D is derived. The present study provides new information about the variables that impact the QoL of the TRANS population and can direct future public policies aimed at the better well-being of this population.

Conclusion

Our results indicate that the TRANS population had worse QoL when compared with the CIS population. TRANS persons who have lower income and live in the state's capital have a reduced chance of having better QoL scores. Therefore, it is possible to conclude that place of residence and social exclusion due to unemployment and discrimination negatively affect the QoL of this population.

List Of Abbreviations

BRL - Brazilian reais

BMI - body mass index

CEP - Research Ethics Committee

CI - confidence intervals

CIS - Cisgender people

IBGE - Brazilian Institute of Geography and Statistics

MW - minimum wage

OR - Odds ratio

QoL - quality of life

TRANS - transgender

UFES - Federal University of Espírito Santo

WHO - World Health Organization

Declarations

Ethics approval and consent to participate

This study was submitted to and approved by the Research Ethics Committee (CEP) of the Federal University of Espírito Santo (UFES), CAAE No. 36320620.6.0000.5060 and opinion No. 4.896.835. And informed consent to participate in the evaluation research was obtained from all participants.

Consent for publication

Not applicable

Availability of data and materials

All data generated or analysed during this study are included in this published article [and its supplementary information files].

Competing interests

No competing financial interests exist.

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Authorship Confirmation/Contribution Statement

Kaio HC Coswosck: Conception or design of the work; Data collection; Data analysis and interpretation; Drafting the article; Critical revision of the article; Final approval of the version to be published.

Juliana A Moreira: Conception or design of the work; Data collection; Final approval of the version to be published.

Joel, HN Navarro: Conception or design of the work; Final approval of the version to be published.

Valdete R Guandalini: Conception or design of the work; Data analysis and interpretation; Critical revision of the article; Final approval of the version to be published.

Jose L. Marques-Rocha: Conception or design of the work; Data collection; Data analysis and interpretation; Drafting the article; Critical revision of the article; Final approval of the version to be published.

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