



Anthropometric study of penile length in self-declared Brazilians regarding the color of the skin as white or black: The study of a Myth

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Abstract

This is an observational transversal cohort study in which we aim to analyze the Brazilian penis length and compare the penis size of the men self-declared as white (SDW) or black (SDB) skin color. Subjects were asked for self-declare according to their skin color, after that they have been invited to participate in a semi-structured interview so as to have their perception evaluated regarding their penis size and their self-esteem as well. Eventually, their penis length was measured with an anthropometric ruler. The men's mean penis length who declared themselves as black skin color was 16.5 ± 1.7 cm (penis length in real fully-stretched flaccid length) and the men's mean penis length who declared themselves as white skin color was 15.8 ± 1.6 cm ($p < 0.001$). The majority of either SDB (94.0%) or SDW (89.4%) are satisfied with their penis size ($p = 0.464$). We have shown that the man's mean penis length who identifies himself as black is just a little bit bigger than the one who identifies himself as white. However, there were no significant difference between groups regarding self-assessment of genital body image.

Introduction

The phallocentrism has been present since the beginning of all civilizations and the penis was always more than a part of the body. It symbolizes power attributes, e.g., largeness, strength, knowledge, endurance, and dominance. The importance of penile size for the contemporaneous societies is kept alive, being very enriched by the general media where the issue is largely discussed [1, 2].

Within the fascination that the penis caused to mankind, many myths have been made up around it and kept currently [1, 3]. Many myths have associated other parts of body or human ethnic groups with the size of the penis [3], and the clearest example of this is the myth around the macro-phallic standard of black men [1]. Those believes can promote significant and negative impact on male health-related quality of life [3].

In such a phallocentric world, where people are constantly exposed to issues and myths correlated to the penis

size, it is quite common to have men who are concerned about their penis size. Furthermore, some men could present an exacerbated and distressing concern that has a potential to develop psychopathologies symptoms (e.g., general anxiety, low mood and quality of life), we call these symptoms as small penis syndrome, which in more serious form lead to penile dysmorphic disorder (PDD). So, these men consist in specific group of patients that seek care in sexuality-related health clinics [4, 5].

We aim to analyze the Brazilian penis length and compare the penis size of the men self-declared as white or black skin color. Furthermore, the association of self-perception of the penis size and self-esteem were evaluated.

Subjects and methods

This study has been approved by the local ethical committee and all men provided a written consent. All the penile anthropometric data were obtained by a single researcher (RAB), and all measurements were carried out in an air conditioned medical consulting room, at temperature ranging from 23 to 25 °C.

This is an observational transversal cohort study evaluating the association between penis length with man,

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categorized according to his self-declared skin color. All men enrolled in this study were invited to participate just after the routine medical appointment in the Urologic Clinic, due to no genital complains. So, the main investigator did not have any previous information about their penis size.

The inclusion criteria were male Brazilians, ≥ 18 years old, literate and able to answer the questionnaire. The exclusion criteria were patients presenting medical history of surgical procedures that potentially could have changed their penis size (e.g., Radical Prostatectomy and surgical correction for penile curvature due to Peyronie's Disease or Chordee) and congenital anomalies.

Subjects were asked for self-declare according to their skin color into black, white, or others. The Brazilian Government (IBGE - Instituto Brasileiro de Geografia e Estatística) categorizes the population by census according to the color of the skin in a self-declared way, that is, the person itself conceptualizes what is their skin-color, therefore the researcher must not impose his concepts on color of the skin [6]. Thus, men have been invited to participate in a semi-structured interview to evaluate their perception regarding their penis size and consequently self-esteem, which is comprised by four questions and one penile anthropometric measurement. The first three questions have options for answers ranging from 1 to 5 according to a Likert scale [7] and they were as follows: (1) How do you feel regarding the length of your penis? (2) Considering what you think about the regular penis size, how long do you think your penis is? (3) Do you get any embarrassed in case someone sees you naked because of your penis? While questions 1 and 3 address the genital self-perception related to the potential negative impact on mental health, question 2 addresses the self-perception of genital body image. After that, men were required to answer the additional open question "How many centimeters do you believe your penis erected have?" This question aimed to evaluate the perceived penis length (PPL) in a continuous variable.

Finally, an anthropometric ruler graduated in millimeters measured penis length. The researcher measured the penis length in real fully-stretched flaccid length (RSL_{max}), from the pubo-penile junction, depressing the pubic fat until the pubis bone, to the tip of the glans with the ruler placed against the dorsal surface of the penis, with the penis in its maximally extension. The average was after three measures performed consecutively [8–12]. Some studies claim that measuring the erect penile length is more accurate than stretched flaccid length, but this measuring erect penis might needs more invasive techniques [8–12].

Submitted to the approval of the local ethics board on 28 September 2012 and approved with the registration number: CAAE 05559712.5.0000.5259.

Statistical analysis

Differences between groups were tested using two-tailed analysis of Student t test or the χ^2 , when appropriate. Differences between values were considered significant when $p < 0.05$. All of the data were analyzed using Epi Info™ 7 (Centers for Disease Control and Prevention (CDC), Atlanta, GA, USA).

Results

A total of 627 men with a mean age of 53.6 ± 15 (ranging from 18 to 86) years old participated in this study. One hundred sixty seven men (26.6%) self-declared as black (SDB) skin color and 283 men (45.1%) self-declared as white (SDW) skin color. One hundred seventy seven men (28.2%) self-declared as others skin color and they were not included in the analyses.

The mean penis length of the self-declared as black or white skin color men were listed in Table 1. While we found that the mean of PPL was lower on both groups compared to respectively RSL_{max} ($p < 0.001$), the RSL_{max} mean of the penis length in self-declared as black men was significant higher than the self-declared as white men in 7 mm.

There is no statistically difference in the percentage distribution of all answering regarding the question "How do you feel regarding the length of your penis?" The most common answer was neither happy nor sad (3) in both groups (46.7% in SDW and 50.95% in SDB), (Fig. 1).

Regarding the question "Considering what you think about the regular penis size, how long do you think your penis is?" We noticed that the majority of men, 68.9% on the SDB and 64.4% on the SDW, think that their penis is on the mean (3). Just as the other previous question, there is no

Table 1 The mean penile length categorized into self-declared as white or black men

	Black <i>N</i> = 167	White <i>N</i> = 283	P Value *
PPL (cm)	15.2 ± 3.8	14.3 ± 3.0	< 0.01
(min-max)	(6–30)	(5–22)	
RSL_{max} (cm)	16.5 ± 1.7	15.8 ± 1.6	< 0.001
(min-max)	(11.6–20)	(12–21)	
<i>P</i> value	< 0.001	< 0.001	
Mean age (years)	53.8 ± 13.8	53.7 ± 15.5	0.945
(min-max)	(18–83)	(19–86)	

PPL perceived penis length, RSL_{max} real fully-stretched flaccid length

* Student's t test

Fig. 1 Distribution of the answer to the question “how do you feel regarding the length your penis?” according the self-declared skin color

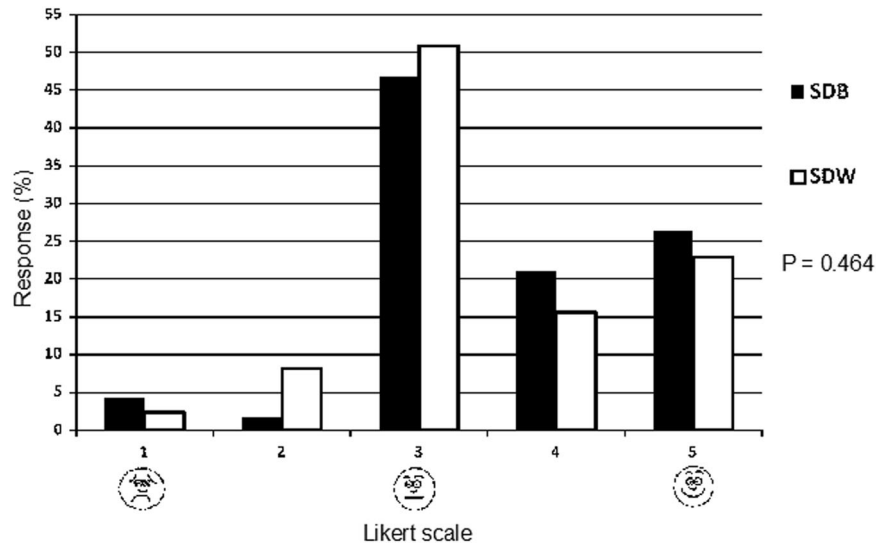
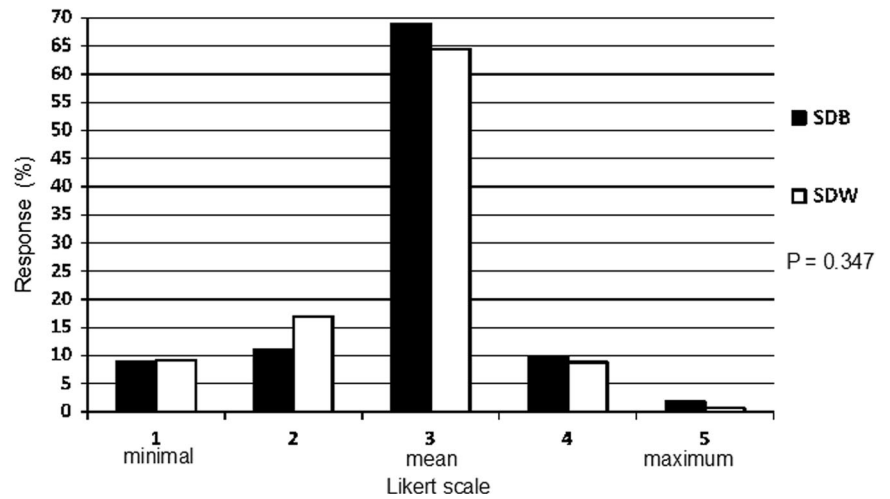


Fig. 2 Distribution of the answer to the question “Considering what you think about the regular penis size, How long do you think your penis is?” according the self-declared skin color



statistically difference in the percentage distribution of all answering. (Fig. 2).

Concerning the question “Do you get any embarrassed in case someone sees you naked because of your penis?” The majority, in both groups, reported that never had (5) or felt ashamed of (4), being 71.3% on the SDB and 64.6% on the SDW. Both SDB and SDW had statistically similar responses. (Fig. 3).

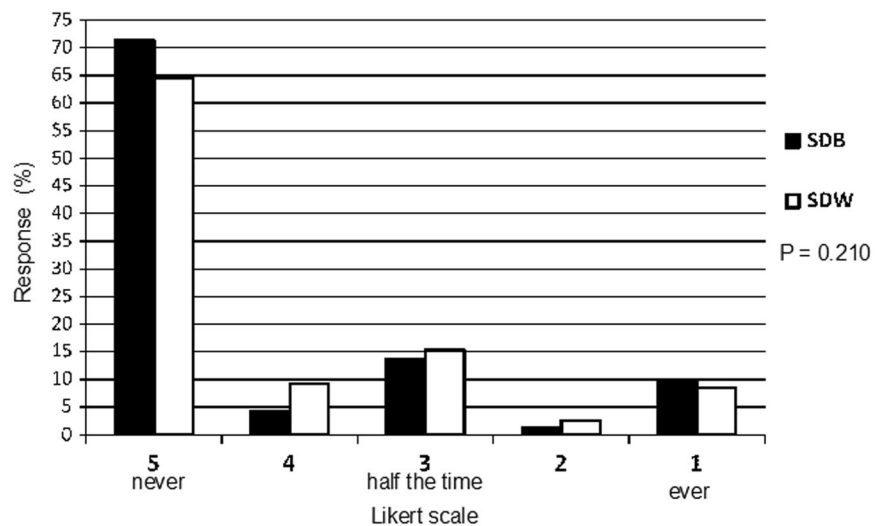
Discussion

For penile objective analysis, we used the penis length in real fully-stretched flaccid length (RSL_{max}) as a way of measuring because many studies have shown that the stretched flaccid length is an excellent estimate of erect penile length [5, 9, 13, 14].

We have found out that mean of penis length of SDB is 7 mm larger than SDW. Despite being a small difference, it is statistically relevant. With regard to the health point of view, how the man feels his identity is more important than how he is categorized according to a visual scale of his skin color by the clinical care professional. Furthermore, categorizing men according to self-perception makes more sense than categorizing them according to real skin color as a racial variable. Categorizing human being into races have no beneficial to human society [15].

The comparative analysis with other anthropometric studies is complicated due to methodological variations used in the measurement of the penis size and in the identification of skin color. There are few studies with measured objective anthropometric of penis size in black men. Orakwe et al. [16]. studied 115 men in Nigeria, the mean stretched penile length of 13.37 cm. We found one study

Fig. 3 Distribution of the answer to the question “Do you get any embarrassed in case someone sees you naked because of your penis?” according to the self-declared skin color



that compared the penis size of black men with total sample men in Portugal. The mean of stretched flaccid penis of black men ($N = 19$) was $17.64 \text{ cm} \pm 1.76 \text{ cm}$ and mean of total men in the search ($N = 498$) was $15.14 \text{ cm} \pm 2.11 \text{ cm}$ [17]. On the other hand, there are many anthropometric studies evaluating the penis of white men [5]. In Brazil, the mean penis size of white men was described as 14.5 cm in erection [18].

We have found two studies that evaluated the self-perception about penis size and the difference between black and white men. Ten thousand white men and 400 black men were questioned in the study “The Kinsey Data” [19]. The result was that the penis size in erection for black men was 16 cm and the penis size in erection for white men was 15.6 cm [19]. On the second study, three thousand men were required in a website questionnaire to inform their penis size and skin color [1]. The penis size in erection for black men was 16.7 cm and the penis size in erection for white men was 17.8 cm . There were no objective measurements by researcher in both studies and men reported self-measurements of their penis. In our study, we consider the perceived penis length as the subjective measurement of penile length and it was $15.2 \pm 3.8 \text{ cm}$ to SDB and 14.3 ± 3.0 to SDW. Men enrolled in our study presented mean value of the penis size in perceived penis length lower than these two studies, This could be explained due to when performing doing self-measurement men do not depress pre-pubic fat. Moreover, men measuring his penis size with no depression of the pre-pubic fat is a common mistake and this point was not clarified in previous studies [1, 19].

In the clinical management of man worried about his penis size, it is important that beyond the anthropometric assessment, an evaluation regarding the intensity of the man’s suffering could be carried out to potentially identify the penile dismorphic disorder from another simple condition of the small syndrome spectrum [2, 20, 21].

The three questions used in this study are used routinely in our urology service as a semi-structured clinical tool to help in the screening and management of man who complains about penis size [7]. We have found no statistical difference between both groups, SDB vs. SDW, considering all the answers evaluated. Furthermore, the vast majority of either SDB or SDW are satisfied with their penis size. These men believe to have a regular penis and they are not embarrassed of getting naked at all. So, we came to the conclusion that men who have taken part in this study showed homogeneity in the form of self-image regardless of their skin color identity. In a large Internet-based survey, most men rated their penis as average sized (66%) and only 12% rated their penis as small similar with our data [22].

Since both white and black men got in touch with each other during expeditionary mission and slavery in colonial times, the penis of black men have become one reference of that relation. The myth of black men have bigger penis size than white men was constructed with the joining the incorrectly supposed belief of more animal sexual behavior of black men with studies with weak scientific rigidity “proving” that black men have bigger penis, as in the study “Race Differences in Sexual Behavior: Testing an Evolutionary Hypothesis”, Rushton JP. et al, 1987 [23]. The author used the data from the “kinsey Data” and Jacobus Sutor study and did a correlation that men with big penis are generally more promiscuous and sexually insatiable.^{1,23} The myth that the Brazilians black men have a bigger penis than the Brazilians white men got started during the settlement when Africans were brought here [24], though there never have being any study assuring that. Since similar myth is presented in several countries around the world, our study can justify that more studies should be conducted to provide more evidence to confirm or to refuse our data.

As limitations of the study, we observe the non-measurement of anthropometric parameters such as height,

weight and BMI, which would help to guarantee the anthropometric homogeneity of the two groups studied. We also did not evaluate educational and socioeconomic factors. However, we can affirm that all subjects were regular users of the Brazilian National Health System, which provides no-cost access to health services and the vast majority of Brazilians who are regular users of this system consists in a population with lower education level and socioeconomic status than regular users of private clinics or health insurance.

Conclusion

We showed that the mean penis length of man who identifies himself as black is just a little bit bigger than the one who identifies himself as white. However, there were no significant difference between groups regarding self-assessment of genital body image.

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Compliance with ethical standards

Competing interests All authors declare that they have no conflict of interests.

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