Positive self-perceived health markers in the older adult population in Brazil

Marcadores da autopercepção positiva de saúde de pessoas idosas no Brasil

Marcadores de la autopercepción positiva de la salud de personas mayores en Brasil

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How to cite:
Gomes MM, Paixão LA, Faustino AM, Cruz RC, Moura LB. Positive self-perceived health markers in the older adult population in Brazil. Acta Paul Enferm. 2021;34:eAPE02851.

DOI
http://dx.doi.org/10.37689/acta-ape/2021A002851

Keywords
Aging; Population health; Self concept; Aged; Social determinants of health; Brazil

Descritores
Envelhecimento; Saúde da população; Autoimagem; Idoso; Determinantes sociais da saúde; Brasil

Descriptores
Envejecimiento; Salud poblacional; Autoimagen; Anciano; Determinantes sociales de la salud; Brasil

Submitted
October 15, 2019

Accepted
June 1, 2020

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Abstract

Objective: To analyze the demographic and socioeconomic determinants that can influence the positive self-perceived health of older adult people in Brazil.

Methods: A quantitative and descriptive study using data from the Brazilian National Health Survey conducted in 2013. This survey constituted a weighted sample of 11.8 million older people living in Brazil. The outcome variable analyzed is self-perceived health, and was categorized as positive and negative. The independent variables contemplate three dimensions: sociodemographic, lifestyle and health aspects. The analyzes were presented as Odds Ratio obtained by applying the binary logistic regression model.

Results: The results show, for both men and women, that having declared themselves white, not having chronic illnesses or functional disabilities, having a healthier lifestyle (never having smoked and having participated in religious social interaction activities more frequently) and higher levels of education contribute to the chances of a better perception of health being greater. Older people with complete high school and incomplete higher education were three times more likely to have a positive perception of health than those without complete elementary school.

Conclusion: This study identified the social determinants of health of older persons and the relationship with a positive perception of health. Identifying and analyzing these associations are important points for the elaboration of specific public policies, aiming at equity and health promotion.

Resumo

Objetivo: Analisar os determinantes demográficos e socioeconômicos que podem influenciar a autopercepção positiva de saúde de pessoas idosas no Brasil.

Métodos: Estudo quantitativo de natureza descritiva que utiliza dados da Pesquisa Nacional de Saúde realizada em 2013 que constituí uma amostra ponderada de 11,8 milhões de idosos residentes no Brasil. A variável desfecho analisada é a autopercepção de saúde e foi categorizada em positiva e negativa. As variáveis independentes contemplam três dimensões: sociodemográficas, estilo de vida e aspectos de saúde. As análises foram apresentadas em forma de razão de chances obtidas através da aplicação do modelo de regressão logístico binário.

Resultado: Os resultados evidenciam, tanto para homens quanto para mulheres, que ter se autodeclarado branco, não apresentar doenças crônicas ou incapacidades funcionais, ter um estilo de vida mais saudável (nunca ter fumado e ter participado de atividades de interação social religiosa com maior frequência), e níveis de escolaridade mais elevados contribuem para que as chances sejam maiores de uma percepção positiva da saúde. Pessoas idosas com ensino médio completo e superior incompleto apresentaram três vezes maiores

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Conflicts of interest: nothing to declare.

chances de percepção positiva da saúde em relação aos idosos sem o nível fundamental completo.

Conclusão: O estudo identificou os determinantes sociais de saúde dos idosos e a relação com uma percepção positiva da saúde. Identificar e analisar estas associações são pontos importantes para a elaboração de políticas públicas específicas, visando a equidade e a promoção da saúde.

Resumen

Objetivo: Analizar los determinantes demográficos y socioeconómicos que pueden influir en la autopercepción positiva de la salud de personas mayores en Brasil.

Métodos: Estudio cuantitativo de naturaleza descriptiva que utiliza datos de la Encuesta Nacional de Salud realizada en 2013, que constituye una muestra ponderada de 11,8 millones de adultos mayores residentes en Brasil. La variable de resultado analizada es la autopercepción de la salud y fue categorizada en positiva y negativa. Las variables independientes contemplan tres dimensiones: sociodemográficas, estilo de vida y aspectos de la salud. Los análisis se presentaron en forma de razón de momios obtenidos mediante la aplicación del modelo de regresión logística binario.

Resultado: Los resultados evidencian que, tanto en hombres como en mujeres, haberse autodeclarado blanco, no presentar enfermedades crónicas o incapacidades funcionales, tener un estilo de vida más saludable (nunca haber fumado y haber participado en actividades de interacción social religiosa con mayor frecuencia) y tener un nivel de escolaridad más elevado contribuyen para que las probabilidades de una percepción positiva de la salud sean mayores. Personas mayores con educación secundaria completa y educación superior incompleta presentaron probabilidades tres veces mayores de una percepción positiva de la salud con relación a los adultos mayores sin el nivel primario completo.

Conclusión: El estudio identificó los determinantes sociales de salud de los adultos mayores y la relación con una percepción positiva de la salud. Identificar y analizar estas relaciones son puntos importantes para la elaboración de políticas públicas específicas, que busquen equidad y promoción de la salud.

Introduction

Population aging characterizes the increase in longevity and is considered by the World Health Organization as a success story of health and socioeconomic development policies.[1] The recent social history of longevity is marked by the heterogeneity of the social conditions of health production, which involves unequal trajectories between people and their aging processes over the course of life.[2] The expansion of longevity presents opportunities and challenges, including the need to capture the health status of the population.[2,3]

One of the ways of outlining the general health situation of the older adult population is the use of self-perceived health as an indicator that reveals the state of individuals, fully considering their physical, behavioral and emotional aspects and the perception of satisfaction with their own lives.[4-6]

Self-perceived health has been used as a valid indicator of health status in research involving the older adult population.[7,8] Even with subjectivity, this indicator for older persons is related to objective measures and has been used as a predictor of mortality and functional decline.[9,10]

The Brazilian National Health Survey (*Pesquisa Nacional de Saúde*, abbreviated PNS) captures in an unprecedented way some aspects related to the conditions of the Brazilian population, addressing, among other issues, the individual perception of health in multiple dimensions, which is the focus of this work.[11] Studies that address self-perceived health and quality of life reveal that socioeconomic conditions and social ties influence the negative perception of health;[12,13] however, PNS also offers national data that allow the elaboration of new analyzes of these socioeconomic, psychosocial and behavioral circumstances of older adults and the relationship with positive health assessment. Characterization of the determinants of the positive perception of health by Brazilian older adults represent a gap in the Brazilian literature.

To promote active aging, it is necessary to consider the factors that act concomitantly and that may be associated with a positive perception of health. This paper acknowledge that social inequalities in Brazil and in the world generate social determinants of health inequalities in the population.[2-4] Therefore, the way in which older people assess health needs to be deciphered from a theoretical perspective of social gradient. Different social positions are assumed to produce health differentials and reveal the "reason of the causes" of health inequities.[14] Research with this type of approach supports the development of indicators for monitoring public policies and public action aimed at aging throughout life and deepens the understanding of health professionals about the determinants of longevity.

Furthermore, the study aims to analyze the demographic and socioeconomic determinants that can influence the positive self-perceived health of older people in Brazil.

Methods

This is a quantitative research, of a descriptive nature, which used secondary data from PNS. PNS is a nationwide population-based household survey conducted in 2013 by the Brazilian Institute of Geography and Statistics (*Instituto Brasileiro de Geografia e Estatística*, abbreaviated IBGE), in partnership with the Health Surveillance Office of the Ministry of Health and *Fundação Oswaldo Cruz*. PNS focused on addressing chronic diseases, lifestyles and access to health services.[11]

Given the wealth of information in this database, the theoretical framework and the objective proposed in this study, the following questions were selected: self-perceived health of older persons, sociodemographic variables of lifestyle and aspects of health, according to items in the questionnaire answered by the population aged 60 and older.

The sociodemographic characteristics selected were age; self-declared color/ethnicity, being categorized as white, black (black and mixed-ethnicity) and others (Asian and Indigenous); geographic region of residence; and education.

The lifestyle variables selected for the study were alcohol consumption; smoking (use of cigars, cigarillo, pipe, hookah); and, participation, in the last year, in religious activities.

Another variable investigated refers to the presence of Chronic Non-Communicable Diseases (NCDs) diagnosed as hypertension, diabetes, high cholesterol, heart disease, stroke or stroke, asthma or asthmatic bronchitis, arthritis or rheumatism, spine problems, lung disease, cancer and chronic kidney failure. The categories used were: does not have any disease; has a disease among those considered; has two to three; and has more than three.

The functional capacity of older adults was characterized by identifying difficulties in performing tasks classified as Activities of Daily Living (ADL) and Instrumental Activities of Daily Living (IADL). ADL consist of eating and drinking with a plate placed in front of you, including holding a fork, cutting food and drinking from a glass; showering, including getting in and out of the shower or bath; go to the bathroom alone, including sitting and getting up from the toilet; dressing, including putting on socks and shoes, opening and closing the zipper and buttons; walking home alone on the same floor; lying down or getting out of bed; sitting or getting up from the chair.

The recommended IADLs were shopping for food, clothing or medicine; taking care of one's finances; taking medicine; going to the doctor; taking transport such as bus, subway, taxi or car. Older adults who were unable to perform at least one of the activities independently or who had little or much difficulty in any one of them were considered dependent; those who had no difficulty as independent.

The dependent variable was self-rated health, covered by the question: In general, how do you assess your health? For this study, the answers to the PNS questionnaire responses were aggregated into two categories: (1) positive - very good, good; (0) negative - bad and very bad. It was decided not to include in the sample the older person who answered "usually", since this answer would not allow to adequately choose a discrimination parameter that would differentiate the perception of the respondents towards the positive or negative pole and considered as a neutral point for interviewees with a lower level of education, especially in countries marked by intense social inequality, may choose a neutral point for their answers to the detriment of the difficulty of understanding the questions and not necessarily of a position on the question asked.[15]

In this work, the stepwise process of inclusion of the variables was adopted and two models were defined - one for each sex - with the variables that had significance for the positive perception of the health status of older adults.

To analyze the association between self-perceived health and social determinants, independent variables, binary logistic regression was used. We sought to identify, in terms of odds ratio, the degree of association between the dependent and independent variables, which indicates whether the determinant works as a possible risk or protection factor for the positive self-perception of older adults' health. To obtain the proposed models and descrip-

tive analysis of the data, specific routines were used for the treatment of data from complex samples available in SPSS. A weighted sample of 26.4 million older people resulted.

The PNS project was approved by the Brazilian National Research Ethics Commission, according to Process 328.159 of June 26, 2013. The data are public and published on the IBGE website (www.ibge.gov.br). Thus, according to Resolution 466/2012 and 510/2016 of the Brazilian National Health Council (*Conselho Nacional de Saúde*), as it is a study that uses secondary data that does not contain identification of its participants, it was not necessary to resubmit this research for analysis by an ethics committee.

Results

The segment composed of people aged 60 and older, who perceived their health as positive (very good or good) or negative (bad or very bad) comprised 11.8 million individuals in 2013 by PNS; and corresponded to 6% of the total PNS respondents. Of these, most were 56% women, lived in the Center-West (50%) and Northeast (23%), were aged up to 69 years (54%), declared themselves to be white (54%) and had educational level not higher than the incomplete elementary school (64%). Among those males who perceived their health as positive, it was observed, as shown in Table 1, that they are young older adults (32%), white (58%) and who live mainly in the Center-West (53%). The percentage of those who declared themselves to have completed higher education (18%) stands out. With regard to lifestyle variables (Table 2), the majority declared to be an ex-smoker (44%) and to attend religious activities (42%). The percentage of older adult who use alcoholic beverages is higher in this group that rated their health as very good or good than among those who rated it negatively (47% and 22%, respectively). As expected (Table 3), the male population aged 60 and older who does not have any disability and with no or only one NCD presented a higher percentage of health perceived as positive (99% and 72%, respectively). Similar values were seen among older adult women who would positively assess their health. Overall (Table 1), most lived in the Center-West region (55%), were aged up to 64 years (37%), were white (59%) and had a college degree (16%). It was also observed that this group was made up of women with a healthier lifestyle - (Table 2) (70% never smoked and 65% attended religious activities). The use of alcoholic beverages, as well as among men, is higher among those with declared positive health (19%) than among those who declared negative (6%). The percentage of independent women (96%), as none or a chronic non-communicable disease (62%), end the characteristics investigated for this group with positive self-perceived health (Table 3). Table 4 presents the Odds Ratio for self-perceived health, considering the social determinants that remained for the final models, after the stepwise process. It

Table 1. Percentage of older adults, according to sex, according to self-perceived health and sociodemographic variables (n=11871947)

Sociodemographic variables	Sex/self-perceived health					
	Male			Female		
	Positive %	Negative %	Total %	Positive %	Negative %	Total %
Region						
North	5	10	6	4	6	5
Northeast	20	33	23	19	38	23
Southeast	15	14	15	16	15	16
South	7	7	7	6	7	6
Center-West	53	35	50	55	34	50
Age group						
60 to 64 years old	32	27	31	37	30	35
65 to 69 years old	31	32	31	29	30	29
70 to 74 years old	17	11	16	13	15	13
75 to 79 years old	11	18	12	13	13	13
Over 80 years old	9	13	10	8	11	9
Ethnicity/color						
White	58	30	53	59	39	55
Black	40	70	45	39	59	44
Asian/Indigenous	2	0	2	1	2	2
Education						
Up to incomplete elementary school	60	88	65	58	86	64
Complete elementary school and incomplete high school	9	6	8	8	4	7
Complete high school and incomplete higher education	13	5	12	18	7	15
Complete higher education	18	1	15	16	3	13
Total	100	100	100	100	100	100

Notes: Considering only the cases in which the elderly person was the informant.
Positive perception comprises the categories Very good and Good; Negative perception comprises the categories Bad and Very bad.

Table 2. Percentage of older adults according to sex, according to self-perceived health and lifestyle variables (n=11,871,947)

Variáveis de estilo de vida	Sexo/Autopercepção da saúde					
	Masculino			Feminino		
	Positiva %	Negativa %	Total %	Positiva %	Negativa %	Total %
Bebidas alcóolicas						
Não consome	53	78	58	81	94	84
Menos de 1 vez por mês	12	10	12	9	2	7
Uma ou mais vezes por mês	35	12	31	10	4	9
Tabagismo						
Nunca fumou	41	32	40	70	64	68
Fumante	15	23	17	11	12	11
Ex-fumante	44	44	44	19	24	21
Atividades religiosas						
Não frequenta	37	38	37	20	30	22
Raramente frequenta	22	24	22	16	17	16
Frequentemente	42	38	41	65	52	62
Total	100	100	100	100	100	100

Fonte: Microdados da PNS 2013. Elaboração própria.
Notas: Considerando apenas os casos em que o próprio idoso era o informante.
Percepção positiva compreende as categorias Muito boa e Boa; Percepção negativa compreende as categorias Ruim e Muito ruim.

Table 3. Percentage of older adults according to sex and self-perceived health, according to health aspects (n=11,871,947)

Quantidade de doenças crônicas não transmissíveis e Capacidade Funcional	Sexo/Autopercepção da saúde					
	Masculino			Feminino		
	Positiva %	Negativa %	Total %	Positiva %	Negativa %	Total %
Doenças crônicas não transmissíveis						
Nenhuma	39	12	34	32	4	26
Uma	32	32	32	30	14	27
Duas a três	25	37	27	31	46	35
Quatro ou mais	4	18	7	6	36	13
Capacidade funcional						
Dependente AIVD	1	13	3	4	15	7
Dependente AVD e AIVD	0	1	0	0	3	1
Independente	99	86	97	96	81	93
Total	100	100	100	100	100	92,5

Fonte: Microdados da PNS 2013. Elaboração própria.
Notas: Considerando apenas os casos em que o próprio idoso era o informante.
Percepção positiva compreende as categorias Muito boa e Boa; Percepção negativa compreende as categorias Ruim e Muito ruim.

was observed that the age variable was not significant, regardless of sex. In general, for both men and women, having declared themselves white, not having NCD or functional disabilities, and having a healthier lifestyle contributed to greater chances of positive self-perceived health (according to OR less than one and which are presented in Table 4). Among men residing in the North and Northeast regions, chances were greater of positive self-perceived health, when compared with those residing in the Southeast region (OR=3.63 and 3.91, respectively). As for women, the data showed that older adult women living in the North and Northeast regions were less likely to perceive health positively, with 60% and 64%, respectively, less than those who lived in the Southeast. Regarding education, it is observed for both male and female older adult that, the higher the educational level, the lower the chance of negative perception. Older adult with complete high school and incomplete higher education had three times greater chances of positively perceiving their health when compared to older persons with education below the complete elementary level (Table 4). As for lifestyle (Table 4), never having smoked and having participated in religious so-

Table 4. Odds Ratio (OR) of the final binary logistic regression model for self-perceived health and social determinants according to sex

Variables	Final model – male and female older adults			
	Final model - Male		Final model - Female	
	OR	95% CI	OR	95% CI
Age	1.00^{NS}	(0.97;1.03)	1.01^{NS}	(0.99;1.04)
Ethnicity/color (White ref.)				
Black	0.37***	(0.23;0.60)	0.64*	(0.45;0.92)
Asian/Indigenous	5.16*	(1.19;22.37)	0.33^{NS}	(0.10;1.03)
Region of residence (Southeast ref.)				
North	3.63**	(0.17;0.76)	0.40***	(0.22;0.70)
Northeast	3.91***	(0.24;6.43)	0.36***	(0.23;0.54)
South	0.60^{NS}	(0.32;1.14)	0.64^{NS}	(0.38;1.07)
Center-West	0.63^{NS}	(0.34;1.18)	0.62*	(0.39;0.98)
Education (Up to incomplete elementary school ref.)				
Complete elementary school and incomplete high school	2.15^{NS}	(0.97;4.76)	2.59***	(1.59;4.20)
Complete high school and incomplete higher education	3.30***	(1.69;6.42)	3.181**	(1.50;6.72)
Complete higher education	28.15***	(9.81;80.80)	6.06***	(3.01;12.20)
Alcohol beverage consumption (Do not consume ref.)				
Less than once a month	1.35^{NS}	(0.75;2.42)	3.14***	(1.68;5.87)
Once or more times a week	3.35***	(2.04;5.50)	1.87^{NS}	(0.87;4.04)
Smoking (Never smoked)				
Smoker	0.48*	(0.27;0.86)	-	-
Former smoker	0.85^{NS}	(0.50;1.45)	-	-
Religious activities (Usual ref.)				
Do not attend	0.52*	(0.32;0.85)	0.40***	(0.27;0.58)
Rarely	0.73^{NS}	(0.40;1.33)	0.570**	(0.38;0.86)
Chronic non-communicable diseases (No disease ref.)				
One disease	0.23***	(0.13;0.40)	0.32***	(0.19;0.52)
Two to three diseases	0.11***	(0.06;0.20)	0.08***	(0.54;0.13)
Four diseases and over	0.02***	(0.01;0.05)	0.02***	(0.10;0.35)
Functional capacity (Independent ref.)				
ADL and IADL dependent	0.07***	(0.02;0.19)	0.37*	(0.18;0.74)
IADL dependent	0.09^{NS}	(0.01;1.14)	0.10***	(0.03;0.36)

Note: statistical significance: *p value <0.05; **p value <0.01; ***p value <0.001; NS: not significant.

cial interaction activities more frequently (reference categories in the model) presented higher chances of positive health assessment for men and women (OR less than zero when compared to the reference categories). On the other hand, alcoholic beverage consumption, being more frequent for men ($OR_{once\ or\ more\ times\ in\ the\ month}$=3.35) than for women ($OR_{less\ than\ once\ a\ month}$=3.14) contribute for a greater chance of declaring health as very good/good. As expected, in both sexes, not having disabilities or NCDs are factors that contribute to greater chances of positive self-rated health.

Discussion

The results show the theoretical assumptions adopted by the study, based on social determinants of health that included divisions of social stratification and hierarchies of power based on gender inequalities. Being a man, white, having a higher level of education, having a lower number of NCDs and preserved functional capacity that allows independence in ADL and IADL were variables associated with a better perception of health. Perceiving health positively seems to reflect a social position and the structural mechanisms that organize socioeconomic contexts throughout the course of life.

In this study, positive perception of health with a relative number of men exceeding that of women for very good and good health assessments corroborates with research related to sex issues and the unequal use of working time between men and women over the life course.[16] Perception is associated with biological, social and behavioral factors anchored in the theoretical perspective of **social determinants of health**.[5,14] However, other studies have not identified differences in health perception between men and women.[17,18]

A total of seven out of ten older people had not completed primary school. This data is important, as the level of education was also pointed out as a significant determinant in the perception of health: older adults with higher education are less likely to have negative assessments.[17] The social position contemplates the material conditions of life and education will impact the social capital of each older persons and their lifestyle, their access to health services and the quality of treatment of NCDs. Low education is related to worse health conditions and is also associated with negative self-perception of health.[19,20] It should be noted that the percentage of older adults with positive perception decreased with age and the number of NCDs **increased**.[18] Another study pointed out that older adults with no education were more likely to negatively assess their health than those aged over eight years.[20] The same study showed that depending on lifestyle, older adult women who did not have a regular habit religious practices negatively perceived their health, unlike those who usually attended. Practicing religious activities was significant only for women. Religion and culture can interfere with behavior, relating to drinking, smoking and other food issues. It is important to highlight that, before being just a religious practice, regular attendance in groups provides an expansion of the social network of older persons; this attendance represents an activity of social interaction and possibly an activity to confront the social isolation reported in this stage of life.[21]

The health condition variables were those that had the highest prevalence in self-perceived health. For both sexes, the presence of NCD and functional disability influenced the negative perception of health. These variables had a greater association for older adults. The presence of diseases allows an association with negative self-rated health. Polimorbidities can bring limitations and difficulties in self-care, which can provide negative self-perception of health in older adults.[18,22]

Male older adults living in northern and northeastern Brazil, who had less education, who had more NCDs, were dependent on ADLs and IADLs or only in the latter; and those who most negatively perceived their health. Women aged 60 and over, residing in northern and northeastern Brazil, with less education, who did not attend religious activities, had NCDs or were dependent on ADLs and IADLs were those who most negatively assessed their health.

The profile of older adults that was associated with positive self-assessment indicates that the

health of the older adult population is defined by determinants that approach the expanded concept of health as a result of all policies. Moreover, the importance of the right to education for older adults is reinforced as a component of promoting the health of this population and preventing diseases related to NCDs and disabilities. A previous study already identified the association between activities of daily living, the ability to self-report diseases and education.[23] A database that allows an analysis of the factors related to the frailty syndrome and its differentials for older adult women and men could help in a more precise detail about the impact of NCDs on health perception.[24,25] However, it is recommended to standardize research questions and answers on self-rated health. This information will make it possible to know, monitor and compare results to guide decision-making regarding the formulation of public health policies.

Moreover, other limitations are worth noting. The database used does not include institutionalized individuals;[26] it is subject to selection effects, i.e., the information collected by the research and analyzed in this study refers only to older adult survivors; the information was provided through self-report (the older person himself or herself was the informant); therefore, responses may be influenced by cultural factors, memory, education or psychological and emotional issues. These factors can weaken or strengthen the effects of the parameters estimated in the logistics models.

Finally, it is expected that the results presented bring greater knowledge of the factors associated with self-rated health as positive by older adults; as well as allowing to identify points that deserve attention in the planning and implementation of public policies and that can contribute to higher quality life gains.

Conclusion

The study identified the social determinants of health of older adults and the relationship with a positive perception of health. Identifying and analyzing these associations are important points for the elaboration of specific public policies, aiming at equity and health promotion. Public policies and care plans for health professionals aimed at deciphering the social determination of health and planning integrated actions that promote active and healthy aging can contribute to a more positive self-perception of health by the older adult population. Self-perceived health is a tool that allows identifying the perception of older persons in relation to the meaning of their health; this meaning involves subjectivities, judgments, emotions, perspectives and opportunities. But above all, it expresses the social gradient and social and sex inequalities and has consolidated itself as a relevant instrument for the analysis of health demand.

Acknowledgments

We would like to thank the Coordination for the Improvement of Higher Education Personnel (*Coordenação de Aperfeiçoamento de Pessoal de Nível Superior*) for the PNPD scholarship for RCSC.

Collaborations

Gomes MMF, Paixão LAR, Faustino AM, Cruz RCS and Moura LBA contributed to the project design, data analysis and interpretation, article writing, relevant critical review of the intellectual content and approval of the final version to be published.

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