Scientific evidence on malnutrition in children in Brazilian Quilombola: an integrative review

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INTRODUCTION

Studies show that childhood obesity is increasingly evident[1-3], as sedentary lifestyle and malnutrition during childhood are becoming common[4]. Other studies[5,6] point to physical activity as a protective factor against various chronic diseases (e.g., obesity) and human development facilitator for children.

Malnutrition is a pathological condition caused by deficient or inadequate intake of calories and/or proteins[7]. This means that the overweight or obese child may also be malnourished, as this condition is related to the type of food consumed (e.g., the ultra-processed)[8]. Calories from ultra-processed foods are often "empty." An individual who consumes a high amount of calories but lack macronutrients can contribute to malnutrition, a condition related to the absence of nutrients. Childhood malnutrition causes damage to the central nervous system (i.e., cerebellar cortex and hippocampus)[9].

There is a relationship between family influence and children's good/bad habits[10-12]. In the nutritional context, some family members allow the children to choose the type of food (usually ultra-processed), time, and the amount ingested. In terms of physical activity, sedentary family members raise sedentary children. Some still believe that exercise is contraindicated for children. There are some attitudes that build bad habits in life[10-12]. Absence of instructions, on the part of family members and teachers, favors the development of bad habits and chronic diseases[5,13].

Another problem in this context is the lack of exercise. Increasingly, the opportunities, spaces, and time devoted to active play are being neglected in favor of school education (i.e., one in which the child spends the day at school sitting)[4,14]. In addition, contemporary violence and the reduction of public spaces for the practice of physical and leisure activities further restrict children, such as keeping them locked at home, leaving them with cell phones, and videogames (in the case of urban areas). In contrast, there is children residing in rural areas (e.g., quilombolas), which are less investigated[15,16].

A quilombola child lives far from the urban area (in places difficult to access)[17]. For this reason, studies on childhood malnutrition and obesity in quilombola children are lacking, and this prevents us from presenting the current scenario. In addition, to the best of our knowledge, there are still no descriptions that quilombola children fulfill the amount of exercise recommended by the World Health Organization, such as the need for moderate physical activity (e.g., walking, family outings, and recreational activities with movement) or vigorous (e.g., running and sports' games) for at least 1 h daily, in order to add a total of 300 min of physical activity (exercise) at the end of the week[18].

In this context, family members and teachers are the drivers[19] or inhibitors of the child development[20]. According to the United Nations Children's Fund (UNICEF) and the Statute of Children's and Adolescents (ECA), every child has the right to movement and right to play, and whether, in urban or rural areas, this should be encouraged[4]. Thus, the question arises: Are family members and teachers encouraging good habits to promote quality of life for quilombola children?

This study aimed to determine whether studies with quilombola children evaluated the influence of family members and teachers on childhood malnutrition and obesity.

METHODS

For the elaboration of an integrative review, it is necessary to adopt phases that present methodological rigor in search of evidence on a given subject. These phases comprise some steps: select the question for review (i.e., guiding question); select the

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surveys that will constitute the study sample; represent the characteristics of the studies reviewed; analyze the findings according to the inclusion and exclusion criteria established in the project; interpret the results; and present and disseminate the results[21].

Based on the guiding question (i.e., "Are family members and teachers encouraging good habits to promote quality of life for quilombola children?"), the process of reading, collecting, and extracting data in the search engine and databases began. The keywords raised according to the proposed theme and after having been refined through the vocabulary of the Decs (Descritores em Ciências da Sáude) were "Atividade física," "Desnutrição," "Obesidade," "Quilombolas," and "Crianças." The keywords for MeSH (Medical Subject Headings) were "Physical activity," "Malnutrition," "Obesity," "Quilombola," and "Children." Descriptor "quilombola" does not change even though its term is used in English.

After defining the descriptors, they were grouped into the following search terms: A1: "Atividade Física" AND "Quilombolas" AND Crianças; B1: "Physical Activity" AND "Quilombolas" AND Children; C1: Desnutrição AND Obesidade AND "Quilombolas" AND Crianças; D1: Malnutrition AND Obesity AND "Quilombolas" AND Children.

We performed the search in Google Scholar, Fiocruz's institutional arch-repository, PubMed, Periódicos Capes, and BVS databases. This search was performed between August and November 2020. Later, the data extracted from the selected articles were arranged in table format in the Word 2013 Program of the Office Suite.

Inclusion criteria were as follows: articles, monographs, dissertations or theses, works written in Portuguese or English, having published between 2010 and 2020, and studies carried out in quilombola communities or vulnerable populations located near or outside the urban area. Duplicate articles were excluded from the study.

Data extraction was performed as follows: first, papers not related to the research topic were excluded by reviewing simply the title; second, the researchers read the abstracts of papers to confirm whether these papers were related to the proposal in question; and third, to confirm whether the works were in fact related to the theme, all the works selected from the abstracts were read in full.

Finally, articles in the form of handouts, letters, and editorials which do not meet the necessary criteria for scientific research were excluded from this research, as the focus of this study was to seek scientific evidence on the subject. Articles that were not available in full were also excluded.

Data extracted from each selected article were arranged in table format in the Word Program (Office 2013 package) and divided into items as follows: authors, title, objective, methods, results, influence of subjects involved with children, environmental influence, main associated factors, conclusion, and notes (i.e., researchers' perception of each article, such as whether the objectives of the review were addressed, or whether it contained all the other items in the table).

RESULTS

We observed a small number of studies on quilombola children. Most recruited articles (11/12) were retrieved via Google Scholar, in which only one was selected from the BVS database (supplementary document).

Some of the selected articles did not include all the items described in the table, e.g., six articles (corresponding to 50%) did not assess the influence of family members and teachers on childhood malnutrition and obesity.

Environmental influences refer to issues of infrastructure and basic sanitation; regarding the influence of the subjects involved with the children, we observed that lack of knowledge is one of the factors mentioned in the studies described (Tables 1, 2 and 3).

Table 1. Information extracted from selected articles (part a).

Title	Influence of individuals involved with children	Environmental influence	Associated factors
Conhecimento de crianças quilombolas sobre hábitos cardiológicos saudáveis[17].	NA	Quilombola children do not have access to knowledge related to the prevention of cardiovascular diseases; this is perceived by the number of children who do not recognize simple habits for preventing these diseases, such as having adequate nutrition and practicing physical activities.	Instruction/knowledge about healthy eating habits and physical activity; low education and family income, precarious conditions of food education, and preventive health.
Estado nutricional e crescimento de crianças quilombolas de diferentes comunidades do estado do Pará[31].	As for community agents, there is only one (in most of the communities studied) that serves this population.	Restricted access to health services; lack of basic sanitation; there is no structure for health care (e.g., health post or health unit). In contrast, many of them receive family allowances and monthly basic food baskets.	They do not have basic sanitation; lack of structure and trained health professionals; untreated water; socioeconomic conditions.

Table 1. Continuation.

Title	Influence of individuals involved with children	Environmental influence	Associated factors
Perfil epidemiológico da obesidade infanto-juvenil em uma comunidade quilombola: relação entre televisão, atividade física e obesidade[32].	Both parents and teachers are not encouraging the practice of physical activities by children. It is recommended that workshops be offered to these subjects (i.e., parents, teachers, and schoolchildren) to encourage them to use fruits, natural juices, and vegetables produced in the community, thus reducing the consumption of industrialized foods. In addition, motivating children to engage in some sporting activity that gives them pleasure.	The community is located close to the state capital, favoring access to manufactured foods, especially soft drinks and fast food.	Insufficient physical activity, high consumption of processed foods, especially soft drinks and fast foods, geographic location conducive to the consumption of unhealthy foods, in addition to high screen exposure, especially television.
Consumo alimentar e estado nutricional de pré-escolares das comunidades remanescentes dos quilombos do estado de Alagoas[26].	The families, despite receiving the Bolsa Família from the federal government, do not select good food to be eaten by the children.	Unfavorable socioeconomic conditions to maintain a varied diet, poor diet, generating vitamin deficits. The lower the socioeconomic class, the lower the daily consumption of micronutrients. Most families received financial support from the government	Precarious socioeconomic class; food with little variety; low consumption of fruits (5.4%), vegetables (0.5%); consumption of calories above the ideal; suboptimal intake of vitamins; lack of action in nutritional education for families to make better use of the Bolsa Família resource, selecting better foods.

Table 2. Information extracted from selected articles (part b).

Title	Influence of individuals involved with children	Environmental influence	Associated factors
Desnutrição e fatores associados em crianças quilombolas menores de 60 meses em dois municípios do estado do Maranhão, Brasil[22].	NA	High prevalence of malnutrition observed is related to the environmental factors of the families of the evaluated children, which, for the most part, are inserted in lower economic classes D (45.97) and E (39.78) and with lower purchasing power.	Smaller height of the mother; food deprivation; frequent infections (mainly diarrhea); low income and education, informal employment relationships, and difficult access to goods and services.
Condições socioecológicas familiares nos primeiros dois anos de vida de crianças quilombolas no Pará: um estudo de base populacional[23].	NA	Poor basic sanitation; poor garbage collection, which, in general, is buried by 92.1% of the residents; precarious socioeconomic conditions, low education.	Association with H/A deficit (height for age): drinking water from inappropriate sources, inadequate sewage disposal. Aspects related to overweight according to BMI: better infrastructure, such as the presence of an internal toilet.
Fatores Associados ao Déficit Estatural em Crianças Quilombolas Menores de 5 Anos na Região Nordeste do Brasil[25].	In families not served by the FHS (family health strategy), there was a higher prevalence (7.7%; n=35; p=0.075) of low P/A (weight for age). Overweight mothers were more likely to have children with low P/A. In households where the heads had a job, the prevalence of low P/A among children was higher (6.9%, n=45) compared to children of unemployed heads of household (4.5%; n=17). The lack of visits from the CHA (Community Health Agent) also influenced the low P/A. As for low E/A (height for age), the related factors were illiterate mothers, illiterate household heads, and overweight mothers.	Children who lived in households with three rooms or less had a higher prevalence of low (7.1%; n=49; p=0.060), lack of bathroom inside households, lack of running water are also environmental factors that interfered with low results. In homes whose lighting was provided by fuel or other sources, or which did not have lighting, the aforementioned health problem was more prevalent (11.5%; n=7; p=0.072).	As for low P/A: illiterate mothers; households without a bathroom; lack of running water; I did not live in my own home (in the case of the child); not have access to the cistern programs. There was a lower prevalence of low P/A in households where water was treated (5.2%; n=32), and where garbage was collected by the public network (4.4%; n=8). Low W/A was more prevalent among children who had diarrhea episodes in the week preceding the survey (6.5%; n=6). There was also a higher prevalence in households where more than one child <5 years of age lived (7.0%; n=37), or where four or fewer people lived (5.7%; n=35). Regarding H/A, low income was associated with low H/A. A higher prevalence of low E/A was found in households with an employed or retired head (15.7%; n=96), compared to households where the head was unemployed (10.8%; n=38; p=0.034). Families that receive Bolsa Família have a lower percentage of children with low H/A.
Avaliação do consumo alimentar de estudantes da comunidade quilombola Negros do Riacho no município de Currais Novos, no Rio Grande do Norte, Brasil[13].	NA	The snack offered at school (twice a day) where the children spend the whole day may have influenced the results.	Insufficient consumption of micronutrients, mainly calcium, vitamin A, zinc; low consumption of fruits and vegetables.

Table 3. Information extracted from selected articles (part c).

Title	Influence of individuals involved with children	Environmental influence	Associated factors
Comida, cultura e alimentação escolar quilombola[28].	NA	It appears that school menus, despite containing healthy foods, do not contain adequate amounts of fruits, vegetables, and greens. In addition, there is a high supply of savory and sweet cookies in the four regions of the country: North, Northeast, Southeast, and South. The food offered at school can cause countless damages related to the health of quilombola children, such as, for example, noncommunicable chronic diseases.	Low supply of fruits, vegetables, and vegetables on the menus in all regions of the country. High offer of processed foods, especially sausage and sardines, in addition to carbohydrates with low nutritional value.
Nutrição e saúde das crianças das comunidades remanescentes dos quilombos no Estado de Alagoas, Brasil[24].	NA	The vast majority of families are beneficiaries of the Bolsa Família, partially explaining the high prevalence of overweight children, signaling a diet poor in nutrients, but rich in calories, as more than half of the children were anemic (52.7%).	Socioeconomic precariousness; inadequate nutrition; receipt of the family allowance.
Saúde mental materna e estado nutricional do binômio mãe/filho na população quilombola de alagoas[9].	Smaller mothers were associated with children with short stature and malnutrition. Mothers of malnourished children have a lower level of education, smaller height, more children, children with anemia, and families have lower per capita income. Among mothers who had common mental disorder (389), most (60.1%) had anemic children; however, mothers without common mental disorder also had a high number of anemic children (60.5%).	As for chronic malnutrition: income per capita; anemia was related to malnutrition and overweight/obesity. Working outside the home was associated with a higher probability of having malnourished children. A higher number of children was associated with a higher probability of children being malnourished.	The income per capita, height of mother, number of children, education level.
Excesso de peso em estudantes quilombolas e a insegurança alimentar em seus domicílios[27].	There was no statistically significant association between the nutritional status of individuals and the Food Insecurity of quilombola families.	Location of schools; students in urban schools are more likely to be overweight compared to those in rural areas.	Excess weight was associated with the food security of families. There was a high incidence of food insecurity; however, the factors associated with this were not explained in the work.

DISCUSSION

According to the study results, as well as those from several studies[22-25], there is still a continuous neglect of quilombola population. Basic knowledge has not been noticed among these people, such as knowing how to manage in the best possible way the money they receive from the Bolsa Família and the benefits of using healthy foods compared to ultra-processed ones. Furthermore, many of them are unaware of the benefits of the practice of physical activity to maintain a healthy life[17,26].

Studies have shown the correlation between the location of schools and overweight of students. As it is known, the closer to places where ultra-processed foods are consumed, the greater the chances of children consuming them. The prevalence of food insecurity is perceived as being common for studies focusing on the nutritional issue in quilombola populations; however, it is not possible to infer the reasons that lead quilombolas to have a high prevalence of food insecurity[27].

Food insecurity seems to be related to the food offered at school. Since many children are unable to maintain the same diet at home, the school environment becomes the main supplier of food for these children[28]. However, no research has yet been done on this fact.

Cordeiro et al.[27] reviewed that food insecurity was present in 75.2% (n=160) of quilombola families and also highlighted the need for additional studies to understand this phenomenon. Santos-de-Araújo et al.[13] reported that deficiency of micronutrient among families living in quilombola communities was

often related to the consumption of ultra-processed foods; however, the authors did not make any conclusion on aspects related to childhood malnutrition and obesity.

A study found that food insecurity in all Brazilian municipalities was due to a large disparity in food insecurity within the states. In the state of Paraíba, there was a variation of 5.4–22.8% among the municipalities[29]. In a recent study, quilombola populations, especially children, were not investigated, thus showing the vulnerability of this population[30].

Studies that were carried out in quilombola communities in the state of Pará (northern Brazil) investigated the body mass index (BMI) of quilombola children[23], but failed to explain the causes of childhood malnutrition and obesity, as numerous factors are related to overweight and obesity[31], and as a result, few studies have conducted further research on these communities[22,28,32].

This study has limitations that must be addressed. There was a lack of studies on the topic in question, revealing a gap in the literature and hindering the argumentative rationale of this discussion. In addition, environmental influences were not investigated in studies with quilombola children. Therefore, we suggested for the development of future studies.

CONCLUSION

Only six studies describe childhood malnutrition and obesity in quilombola children and possible influences from family members or teachers. Thus, there is a gap in the literature on studies on childhood malnutrition and obesity in quilombola children.

AUTHORS' CONTRIBUTIONS

LPL: Conceptualization, Data curation, Formal Analysis, Investigation, Methodology, Project administration, Resources, Supervision, Validation, Visualization, Writing – original draft, Writing – review & editing. **ESM:** Conceptualization, Data curation, Formal Analysis, Investigation, Methodology, Project administration, Resources, Supervision, Validation, Visualization, Writing – original draft, Writing – review & editing. **FRPQ:** Validation, Visualization, Writing – original draft, Writing – review & editing. **AP-S:** Validation, Visualization, Writing – original draft, Writing – review & editing. **LSS:** Visualization, Writing – original draft, Writing – review & editing. **ESM:** Conceptualization, Data curation, Formal Analysis, Funding acquisition, Investigation, Methodology, Project administration, Resources, Supervision, Validation, Visualization, Writing – original draft, Writing – review & editing.

REFERENCES

1. Pinto RP, Nunes AA, de Mello LM. Análise dos fatores associados ao excesso de peso em escolares. Rev Paul Pediatr. 2016;34(4):460-8. https://doi.org/10.1016/j.rpped.2016.04.002

2. da Costa RF, Cintra IP, Fisberg M. Prevalência de sobrepeso e obesidade em escolares da cidade de Santos, SP. Arq Bras Endocrinol Metabol. 2006;50(1):60-7. https://doi.org/10.1590/s0004-27302006000100009

3. De Souza MCC, Tibúrcio JD, Flores Bicalho JM, de Siqueira Rennó HM, Dutra JS, Campos LG, et al. Fatores associados à obesidade e sobrepeso em escolares. Texto e Context Enferm. 2014;23(3):712-9. https://doi.org/10.1590/0104-07072014001740013

4. Coelho VAC. Entre a casa e a escola: prática de atividades físicas e desenvolvimento infantil. UFG; 2017. p. 1-152.

5. Barbosa SC, Coledam DHC, Stabelini Neto A, Elias RGM, de Oliveira AR. Ambiente escolar, comportamento sedentário e atividade física em pré-escolares. Rev Paul Pediatr. 2016;34(3):301-8. https://doi.org/10.1016/j.rpped.2016.01.001

6. Coelho VAC, e Aquino MAM, Montebelo MIL, Tolocka RE. (Des) Valorização da atividade física na pré-escola por professores. Rev Bras Ciencias Esporte. 2018;40(4):381-7. https://doi.org/10.1016/j.rbce.2018.03.013

7. Nunes ML. Malnutrition and neuropsychological development. J Pediatr (Rio J). 2001;77(3):159-60. https://doi.org/10.2223/jped.200

8. Brasil. Guia Alimentar Para a População Brasileira. Brasileira: Ministério da Saúde; 2014.

9. Neiva GSM. Saúde mental materna e estado nutricional do binômio mãe/filho na população quilombola de Alagoas. UFAL; 2010. Available from: https://repositorio.flacsoandes.edu.ec/bitstream/10469/2461/4/TFLACSO-2010ZVNBA.pdf

10. Nunes L. A influência dos estilos parentais na obesidade infantil. Int J Dev Educ Psychol INFAD Rev Psicol. 2011;1(1):37-46. Available from: https://dialnet.unirioja.es/servlet/articulo?codigo=5073226

11. Nogueira H, Ferrão MM, Gama A, Mourão I, Marques VR, Padez C. Percepção parental do ambiente de residência e obesidade infantil no Distrito de Coimbra. Antropol Port. 2012;29:97-111. https://doi.org/10.14195/2182-7982_29_7

12. Franco Mayer AP, Natalia Dobriansky Weber L. Relações entre a obesidade na infância e adolescência e a percepção de práticas de alimentação e estilos educativos parentais. Psicol Argumento. 2017;32(79):143-53. https://doi.org/10.7213/psicol.argum.32.s01.ao13

13. Santos-de-Araujo RL. Avaliação do consumo alimentar de estudantes da comunidade quilombola Negros do Riacho no município de Currais Novos, no Rio Grande do Norte, Brasil. UFRN; 2017.

14. Kishimoto T. Educação infantil no Brasil e no Japão: acelerar o ensino ou preservar o brincar? Rev Bras Estud Pedagógicos. 2019;90(225):449-67. https://doi.org/10.24109/2176-6681.rbep.90i225.519

15. Souza V, Reneis M, Dalbello M, Gonçalves L, Rezende T, Silva Júnior A. Correlação entre atividade física, repouso, riscos cardiovasculares e obesidade em crianças. Rev Bras Ciências Saúde. 2016;20(2):107-14. https://doi.org/10.4034/rbcs.2016.20.02.03

16. Paula A, Amaral DA. Perfil epidemiológico da obesidade em criança: relação entre televisão, atividade física e obesidade. Rev Bras Ciência e Mov. 2008;9(4):19-24. https://doi.org/10.18511/rbcm.v9i4.401

17. Freitas AD, Fonseca SLF, Araújo RK, Antunes FF, Suruagy CD. Conhecimento de crianças quilombolas sobre hábitos cardiológicos saudáveis. Rev Bras Saúde Pública. 2018;1(1):5-8. Available from: https://seer-adventista.com.br/ojs3/index.php/RBSF/article/view/981/746

18. WHO. Global recommendations on physical activity for health. WHO; 2010.

19. Beets MW, Cardinal BJ, Alderman BL. Parental social support and the physical activity-related behaviors of youth: a review. Heal Educ Behav. 2010;37(5):621-44. https://doi.org/10.1177/1090198110363884

20. Dessen MA, Polonia AC. A família e a escola como contextos de desenvolvimento humano. Paid (Ribeirão Preto). 2007;17(36):21-32. https://doi.org/10.1590/s0103-863x2007000100003

21. Whittemore R, Knafl K. The integrative review: updated methodology. Pain Manag Nurs. 2005;52(5):546-53. https://doi.org/10.1016/j.pmn.2007.11.006

22. Silveira VNDC, Padilha LL, Frota MTBA. Desnutrição e fatores associados em crianças quilombolas menores de 60 meses em dois municípios do estado do Maranhão, Brasil. Ciên Saúde Colet. 2020;25(7):2583-94. https://doi.org/10.1590/1413-81232020257.21482018

23. Guimarães RCR, Silva HP, Soares REML. Condições socioecológicas familiares nos primeiros dois anos de vida de crianças quilombolas no Pará: um estudo de base populacional family socioecological conditions in the first two years of quilombola children in Pará. Ciên Saúde. 2018;11(2):90-9. https://doi.org/10.15448/1983-652X.2018.2.29521

24. Ferreira HS, Lamenha MLD, Silva XJF, Cavalcante JC, dos Santos AM. Nutrição e saúde das crianças das comunidades remanescentes dos quilombos no Estado de Alagoas, Brasil. Rev Panam Salud Pública. 2011;30(2):51-8. Available from: https://pesquisa.bvsalud.org/portal/resource/pt/lil-608288?src=similardocs

25. Neves FJ. Fatores associados ao déficit estatural em crianças quilombolas menores de 5 anos na região nordeste do Brasil. Fundação Oswaldo Cruz. 2017;37(1/2):1-27. Available from: https://ci.nii.ac.jp/naid/40021243259/

26. Leite FMB, Ferreira HSF, Bezerra MKA, de Assunção ML, Horta BL. Consumo alimentar e estado nutricional de pré-escolares das comunidades remanescentes dos quilombos do estado de Alagoas. Rev Paul Pediatr. 2013;31(4):444-51. Available from: https://www.scielo.br/j/rpp/a/nTBsCgYGV8Z55MNh6xs9CxH/?lang=pt&format=pdf

27. Cordeiro MDEM. Excesso de peso em estudantes quilombolas e a insegurança alimentar em seus domicílios. Goiânia: Universidade Federal de Goiás; 2013.

28. Kaczynski RG. Comida, cultura e alimentação escolar quilombola. UFRGS; 2017. Available from: http://hdl.handle.net/10183/169943

29. Gubert MB, Segall-Corrêa AM, Spaniol AM, Pedroso J, Coelho SEDAC, Pérez-Escamilla R. Household food insecurity in black-slaves descendant communities in Brazil: has the legacy of slavery truly ended? Public Health Nutr. 2017;20(8):1513-22. https://doi.org/10.1017/S1368980016003414

30. Rodrigues DN, Mussi RFF, de Almeida CB, Petroski EL, Carvalho FO. Determinantes sociodemográficos da falta de prontidão para atividade física em adultos quilombolas. Rev Ciências Médicas Biológicas. 2020;19(1):89. https://doi.org/10.9771/cmbio.v1i1.32737

31. Guimarães, RCR, Silva HP. Estado Nutricional e crescimento crianças quilombolas diferentes comunida do Estado do P Estado nutricion Estado nutricional ades. Amaz Rev Antropol. 2015;7(1):189-208. https://doi.org/10.18542/amazonica.v7i1.2156

32. Teixeira LS, Almeida-Junior E, Reis FP, Oliveira CCC. Perfil epidemiológico da obesidade infanto-juvenil em uma comunidade quilombola: relação entre televisão, atividade física e obesidade. Interfaces Científicas – Saúde Ambient. 2019;5(2):39-52. https://doi.org/10.17564/2316-3798.2019v7n2p%25p