

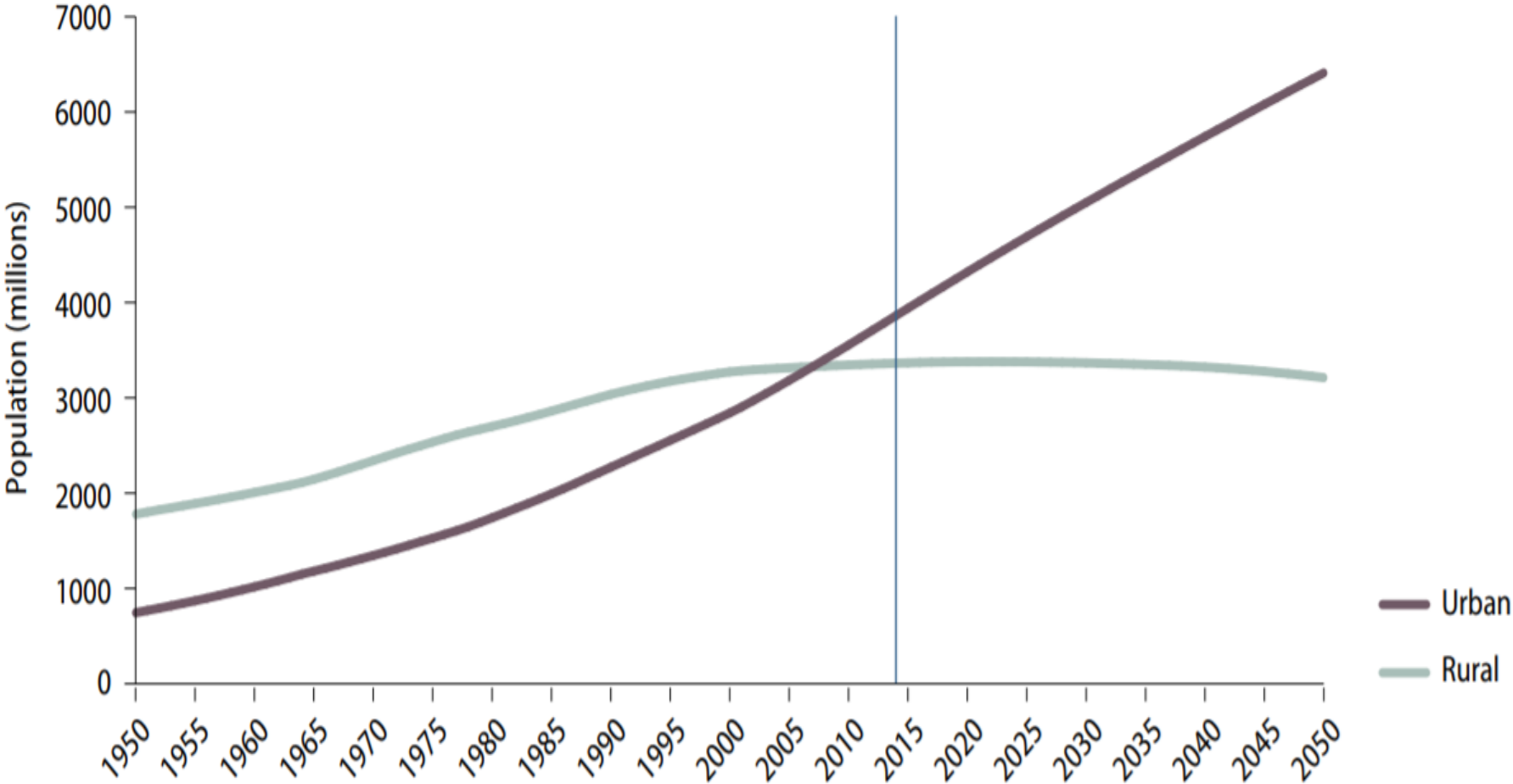


CATÓLICA PORTO
BIOTECNOLOGIA

The Role of Legumes and Urban Farms in Promoting Well-being

Paulo Nova
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Urban and rural population of the world, 1950–2050



Population living in urban areas is expected to be over 80 per cent by 2050!!

This Leads to Multiple Public Health Challenges!!

Reduced Green Spaces

Heavy Air and Noise Pollution



Long Distance and Out of Season Food Based System

Limited Sunchine

Urban Agriculture Could Be Part of the Answer!!!



- Allows for the production of healthy and diversified food closer to home.
- Promotes public well-being, social interactions and impart cultural and green values.
- Its an excellent multilevel educational tool.
- Environmental advantages: help regulate greenhouse gases, promote noise reduction, balance rainwater drainage, lessen the organic waste going to landfills, preserve soil and biodiversity and regulate the local temperature.

Urban Farms Could be The Future of Food Production

- Enables people to eat as “local” as possible.
- When food doesn’t need to be transported, a lot of plastic packaging can be cut out of the equation, too.
- Makes it easier for urban populations to get the freshest food possible and encourages us to eat in season.
- Urban farming also nourishes local economies rather than multinationals and corporate giants.
- You can produce all sorts of fruits, vegetables and aromatic herbs. And, of course, legumes too.

The interest of the scientific community on evaluating their actual effects on urban users are clearly growing

Article

Health Benefits of Urban Allotment Gardening: Improved Physical and Psychological Well-Being and Social Integration

Masashi Soga ^{1,*}, Daniel T. C. Cox ², Yuichi Yamaura ³, Kevin J. Gaston ², Kiyoko Kurisu ¹
and Keisuke Hanaki ¹

Gardening is beneficial for adult mental health: Scottish Health Survey, 2012–2013

Ivy Shiue

Does participating in physical activity in outdoor natural environments have a greater effect on physical and mental wellbeing than physical activity indoors? A systematic review

J Thompson Coon^{1*}, K Boddy¹, K Stein¹, R Whear¹, J Barton², M Depledge³

Cultivating health and wellbeing: members' perceptions of the health benefits of a Port Melbourne community garden

Jonathan 'Yotti' Kingsley*, Mardie Townsend and Claire Henderson-Wilson



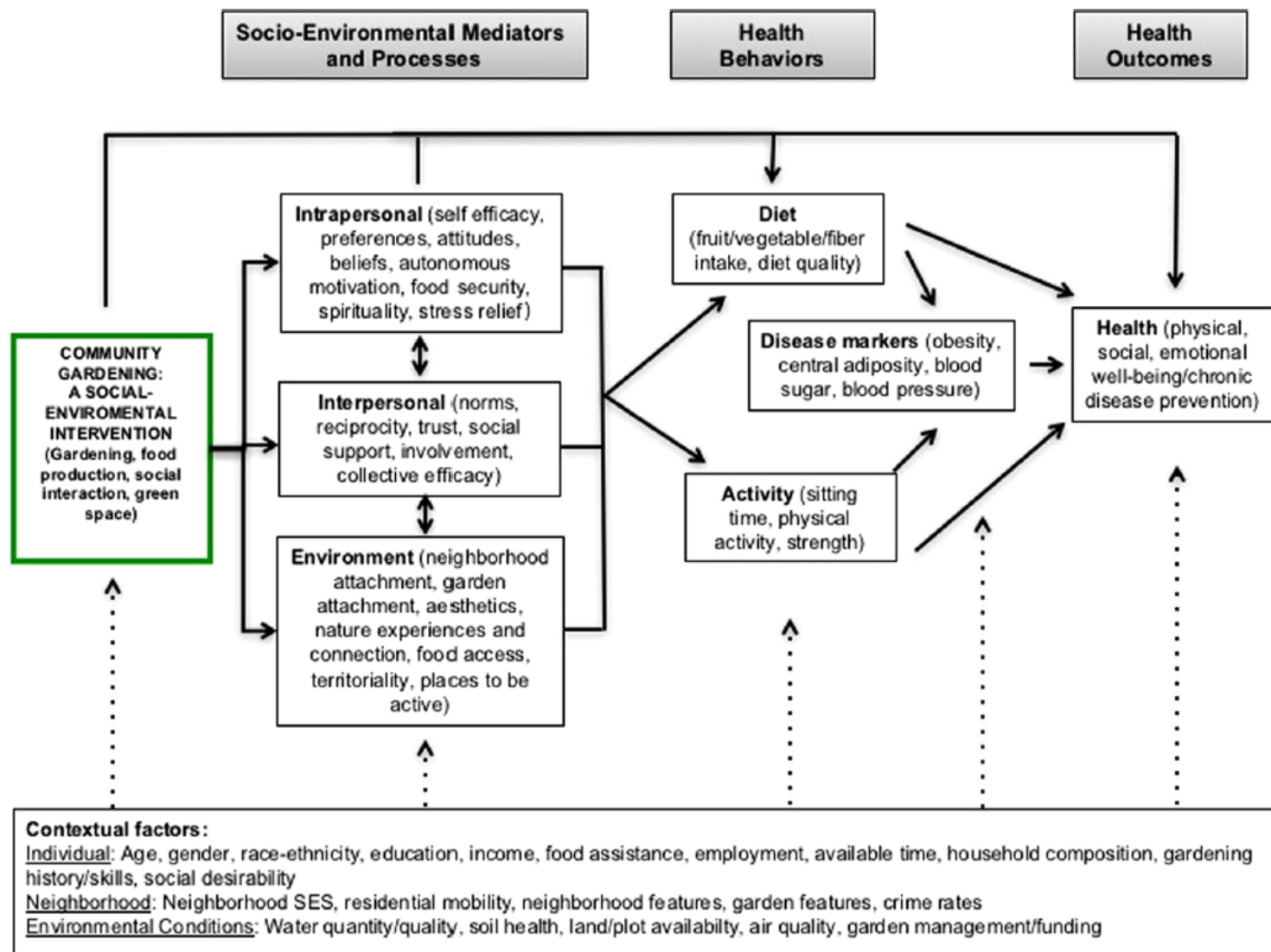
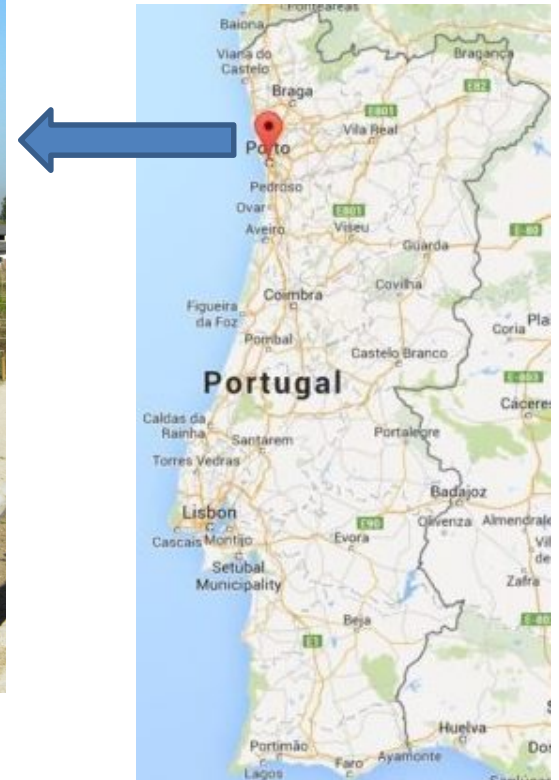


Fig. 1 Theoretical model: pathways connecting community gardens and health

In Portugal...

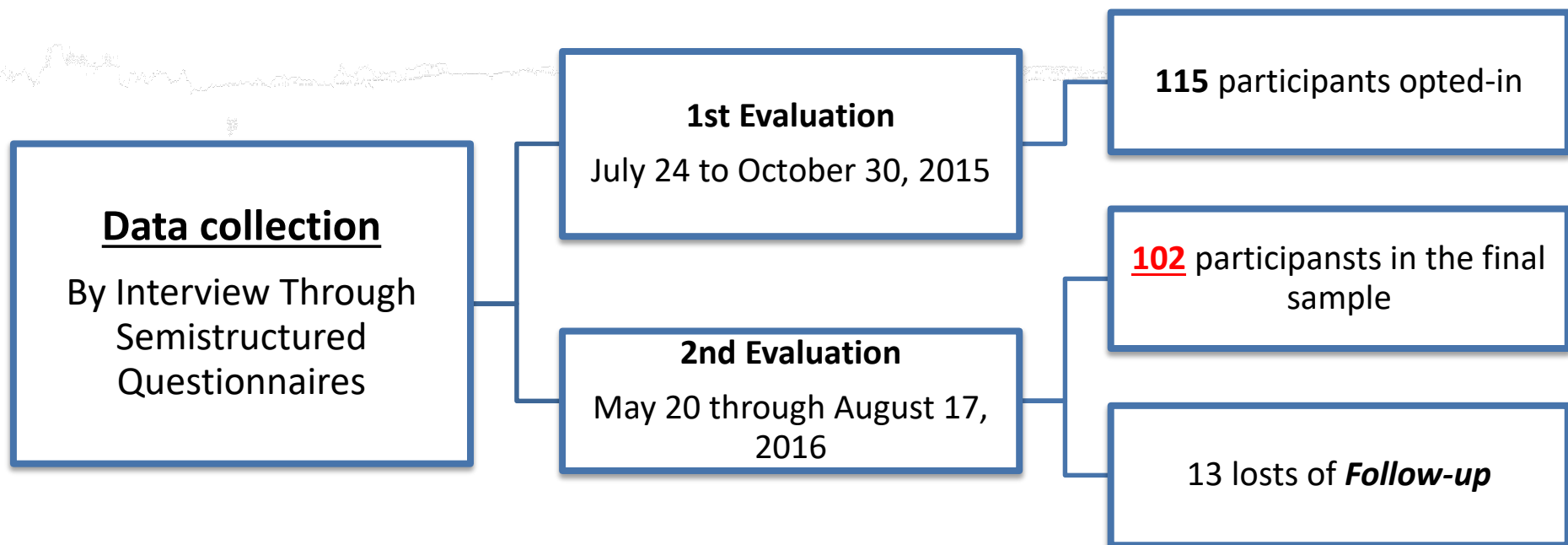


- **The biggest urban biological farm in Europe** – 230 plots for urban biologic gardening.
- The area is part of a mental hospital's larger grounds – Hospital Conde de Ferreira.
- Both hospital workers and residents in surrounding neighborhoods were free to apply for a plot.

A photograph of an urban garden. In the foreground, there are several green water tanks and a dirt path. The garden is divided into plots by white string. In the background, there are several houses with red roofs and a tall antenna tower. The sky is clear blue.

The First Research in Portugal that Aimed...

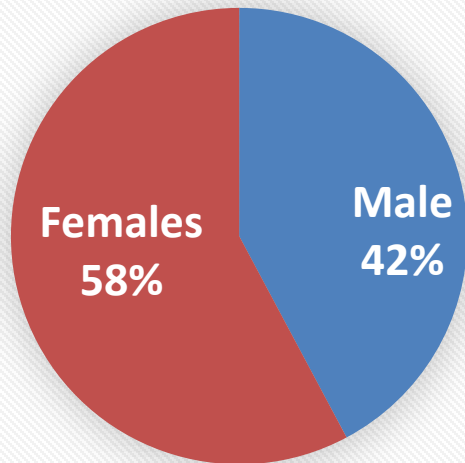
- To characterize the horticulturists of an urban garden in terms of their state of health, health behaviors and environmental practices.
- To evaluate the effect of horticulture practice on these parameters.



Age (years)

Mean plus SD	53±13
Younger participant	24
Older participant	77

Gender

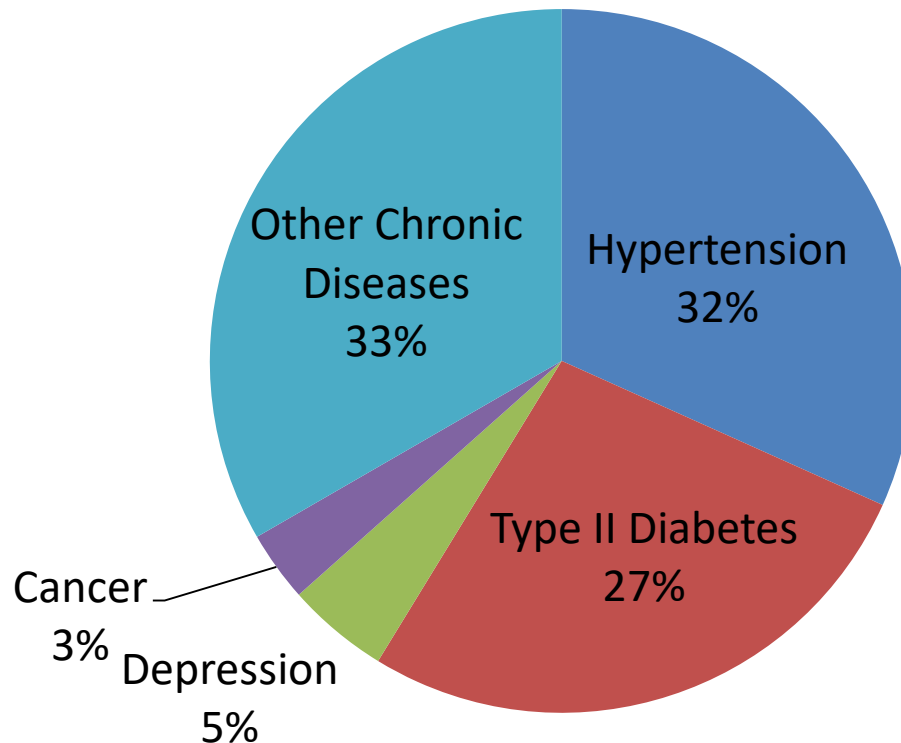


The educational level of the sample was high, with 52.0% of the participants holding college degrees and 23.5% high school degrees.

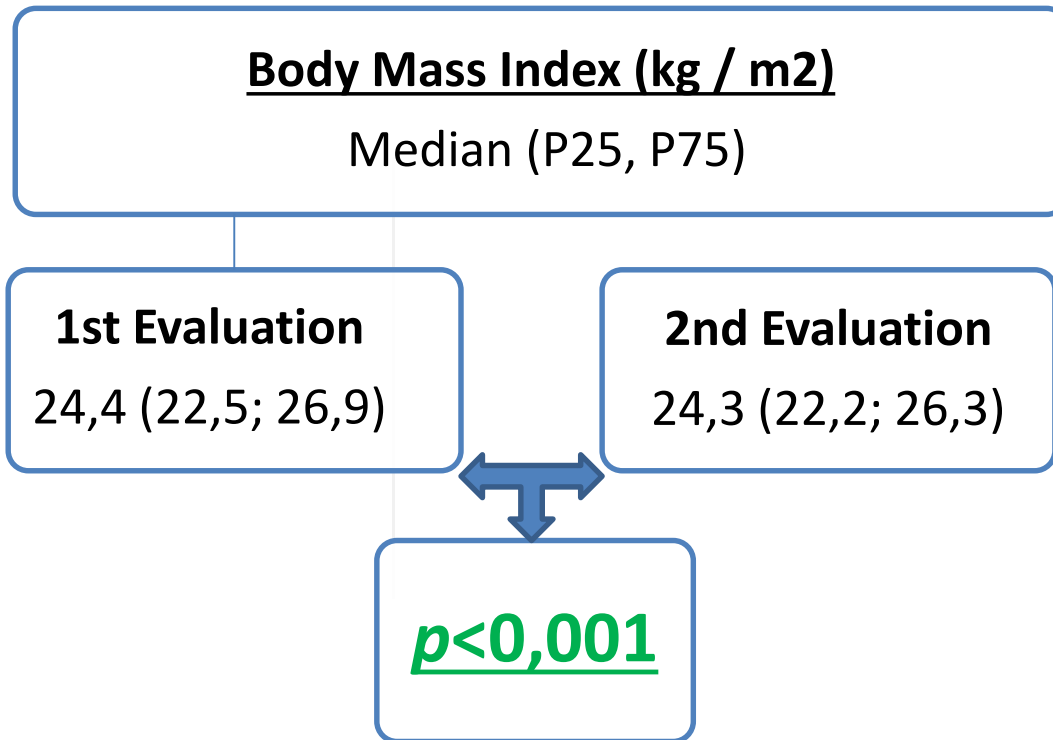


Chronic Diseases

52% of Participants



Anthropometry



Practicing urban gardening seems at least to counter weight gain.

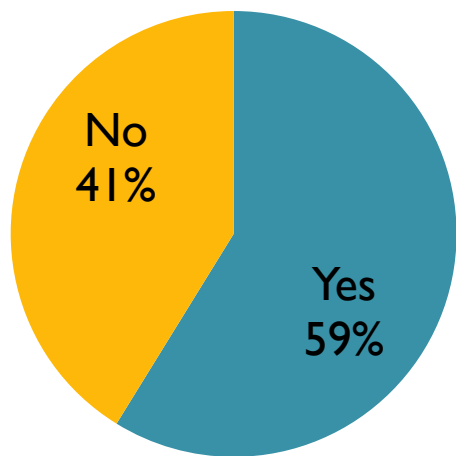
Physical Activity

Duration (minutes / day)

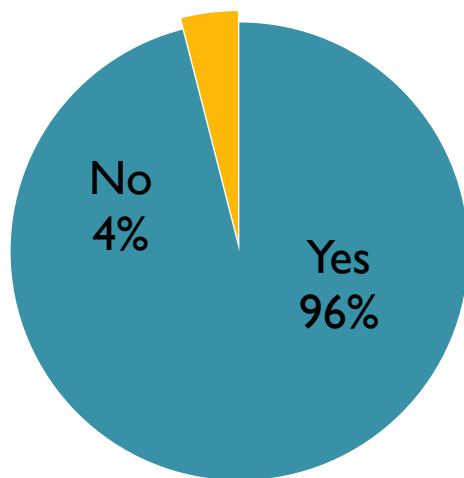
	1st Evaluation	2nd Evaluation
Mean	15,9	25,1

Practice

1st Evaluation



2nd Evaluation



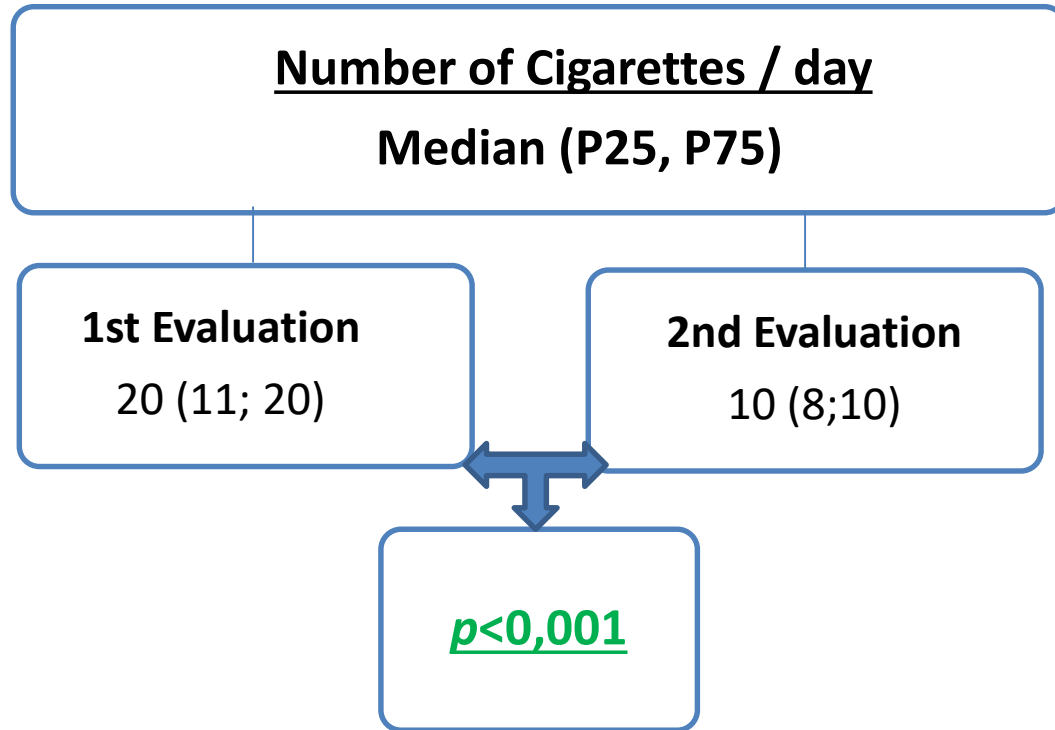
Improvement of about 20 Points in Each of the Domains!!



QUALITY
OF LIFE

Domains	Initial Evaluation	Final evaluation	<i>p</i>
	Mean (standard deviation)		
Functional capacity	76.9 (18.3)	91.7 (10.2)	<0.001
Physical limitations	55.5 (26.0)	83.2 (13.9)	<0.001
Pain	67.0 (31.6)	88.5 (14.8)	<0.001
General health status	61.2 (19.6)	78.7 (13.3)	<0.001
Vitality	47.9 (9.6)	69.5 (14.4)	<0.001
Social aspects	57.8 (25.7)	76.0 (13.8)	<0.001
Emotional limitations	64.9 (25.0)	82.8 (13.5)	<0.001
Mental health	57.5 (16.0)	77.6 (11.5)	<0.001

Smoking Habits



7 participants quit smoking

IE: 65 (63,8)

FE:72 (70,6)

Food Intake



1 portion/ day (36,3%) - 2-3 portions/ day (54,9%)



2-4 portions/ weak (60,8%) - 5-6 portions/ weak (27,5%) or 1 portion/ day (48,0%)



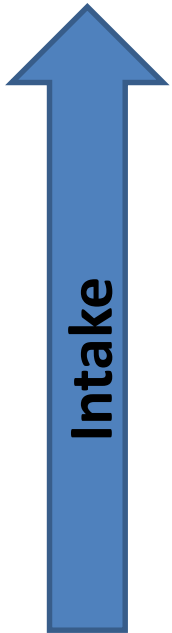
Dish: 2-4 portions/ weak (37,3%) - 2-3 portions/ weak (55,9%)

Soup: 2-4 portions/ weak (26,5%) - 1 portion/ day (33,3%)



1 portion/ day (36,3%) - 2-3 portions/day (53,9%)

Intake



2-4 portions/ weak (26,5%) - 2-3 portions/ day (39,2%).



2-4 portions/ weak (33,3%) - 1 portion/ weak(57,8%).

Impact of Exposure Duration on Behavioral Improvement, Quality of Life, Health and Anthropometry

Up to 3 hours a week (n=42)

More than 3 hours a week (n=60)

There Are No Statistically Significant Differences for the Great Majority of Study Variables

However, Who Dedicates more Time to Urban Gardening:

Are more motivated.

Save more money on food purchases.

Choose more organic food.

Makes more compost.

Has a higher intake of vegetables in the soup, natural fruit juices and herbs.



Growing Health and Quality of Life: Benefits of Urban Organic Community Gardens

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Abstract

Objective: To characterize the horticulturists of an urban garden in terms of their current state of health and health behaviors (in gardening beginning) and to evaluate the effect of horticulture practice on health behaviors and quality of life (after a six-month gardening stretch).

Introduction: The way in which cities have grown, with heavy air and noise pollution, reduced green spaces, a long distance and out of season food based system and limited sunshine access has led to multiple public health challenges. This in turn has prevented the emergence of various local and state policies aimed at improving the health and quality of life of urbanites.

Method: Interviews using structured questionnaires were conducted twice with 115 city dwellers when they got started in a vegetable garden and about 6 months later.

Results: Participants were mostly female (57.96%), professionally active (48.0%) and with a mean age of 53 years. This research showed significant behavioral changes among its users, including positive outcomes in anthropometric parameters, physical activity, smoking habits, eating habits, health status and overall quality of life.

Conclusion: Despite a short follow-up period, it could be shown that gardening did influence health and quality of life behaviors.

Keywords: Behavior Change; Mental Health; Nutrition; Physical Activity/ Exercise; Organic Community Gardens

Introduction

Currently, 54% of the world's population lives in urban areas. Continued urbanization, coupled with population growth, will mean an additional 2.5 billion people living in cities by 2050, with about 90% of those spread throughout Asia and Africa. Urban population worldwide is expected to reach 66% in the same year [1].

The way in which cities have grown, with heavy air and noise pollution, reduced green spaces, a long distance and out of season food based system and limited sunshine access has led to multiple public health challenges. This in turn has prevented the

emergence of various local and state policies aimed at improving the health and quality of life of urbanites [2,3,4].

Urban growth markedly influenced dietary patterns. The food industry increasingly introduced foods with low nutritional value, high energy density and rich in additives, saturated fat, sugar and cholesterol. These new dietary patterns, coupled with a sedentary lifestyle, are the top risk factors for increases in the prevalence of overweight, obesity, type II diabetes and cardiovascular diseases [5, 16].

Urban agriculture is one of the answers available to counter such negative trends, as it allows for the production of healthy and diversified food closer to homes and through natural methods of fertilization and pest control. In addition, by creating green areas, environmental balance and public well-being are improved [2, 17]. A globally positive perception towards urban gardens notwithstanding, studies quantifying their actual effect on users are still scarce. The interest of the scientific community however, is clearly growing [11, 7].

Studies have shown benefits of gardening in symptoms of anxiety and depression in adults with psychological issues, generally improved health, quality of life, strength, endurance, flexibility, increased cognitive ability and socialization in institutionalized elderly people, improvements of physical and psychological health in patients with chronic pain, improvements in patients with mental illness regarding their psychic status and progress in learning and socialization skills and benefits on active aging and stress in horticulturists between 53 and 59 years old [14, 26, 25, 12].

However, to the best of our knowledge, there have been no studies that explored in detail the impact of horticulture on specific health behaviors. If we obtain promising results, we can inform the role of horticulture in health promotion.

Objectives

To characterize the horticulturists of an urban garden in terms of their current state of health and health behaviors (at



Um estudo realizado em Portugal, realizado por investigadores da Escola Superior de Biotecnologia da Universidade Católica Portuguesa (ESB-UCP), em parceria com o LIPOR, avaliou os efeitos da atividade numa horta biológica urbana nos comportamentos de saúde e qualidade de vida de 115 cidadãos urbanos. As ações concluídas que a prática da Horticultura Urbana tem um papel importante na promoção da saúde, bem-estar, hábitos alimentares mais saudáveis e práticas ambientais mais favoráveis.

A necessidade de responder aos impactos de uma urbanização desmedida

Atualmente, 54% da população mundial habita em áreas urbanas. O crescimento populacional, aliado a uma urbanização que cada vez mais se faz sentir, implicará que em 2050 mais de 2,5 mil milhões de pessoas habitam nas cidades, com cerca de 90% desses habitantes a concentrarem-se nas zonas da Ásia e África. Isto terá um impacto significativo na saúde pública, com o aumento da prevalência de obesidade, diabetes tipo II, doenças cardiovasculares e outras patologias associadas a estilos de vida pouco saudáveis. Estes novos padrões dietéticos, aliado a um estilo de vida sedentário, são os principais fatores de risco para o aumento da prevalência de obesidade, diabetes tipo II, doenças cardiovasculares e outras patologias associadas a estilos de vida pouco saudáveis. Estas novas tendências, aliado a um estilo de vida sedentário, são os principais fatores de risco para o aumento da prevalência de obesidade, diabetes tipo II, doenças cardiovasculares e outras patologias associadas a estilos de vida pouco saudáveis.

A forma como as cidades têm crescido, associadas a uma forte poluição atmosférica, grandes concentrações energéticas, alto nível de produção industrial, ausência de espaços verdes e redução do solo fértil implicam consequências negativas não só a nível ambiental, mas também em relação à Saúde Pública da população. A sociedade em que vivemos cada vez mais carece a qualidade de vida em áreas ricas de consumo e os setores industriais respondem a essa demanda aumentando cada vez mais a produção e descartando na qualidade. Um dos grandes desafios da sociedade atual é encontrar maneiras de poder alimentar as suas populações. A medida que as necessidades básicas foram sendo satisfeitas pelas grandes superfícies construídas a introdução de alimentos com baixo valor nutricional,

**Original article
Urban organic community gardening to promote environmental sustainability practices and increase fruit, vegetables and organic food consumption**

Paula Nova¹, Elisabete Pinto^{1,3}, Benedite Chaves¹, Margarida Silva¹

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ABSTRACT

Objective: To characterize the environmental practices of participants of an urban organic community garden at the beginning of their gardening experience and after a period of six months, and to discover their interest about how the activity influenced the consumption of vegetables, fruits and organic food. **Method:** Interviews using structured questionnaires were conducted twice with 115 city dwellers when they started in the vegetable garden and about 6 months later. The questionnaire included questions related to environmental practices, the second evaluation also included questions related to the consumption of organic food, vegetables and fruit.

Results: This research showed significant behavioral transformation, including positive outcomes in environmental practices such as recycling and trying to generate trash or trying to recycle, compost creation or choosing to walk/bike to work, in the opinion of the participants, activities in the organic community garden helped to increase consumption of fruits, vegetables and organic food. **Conclusion:** The study results evidence the hypothesis that an urban organic vegetable garden can induce significant, positive behavioral changes among its users. In particular the research suggests horticulture is associated with positive improvements in personal environmental behaviors, awareness of the environment's high local priority and increased consumption of organic food, fruit and vegetables.

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Práticas agrícolas ecológicas urbanas para promover la sostenibilidad ambiental y aumentar el consumo de frutas, verduras y alimentos orgánicos

RESUMEN

Objetivo: Caracterizar las prácticas ambientales de los participantes de un jardín comunitario orgánico urbano al inicio de su experiencia en prácticas agrícolas y después de 6 meses, así como conocer su opinión sobre cómo esta actividad influyó en el consumo de verduras, frutas y alimentos orgánicos. **Método:** Entrevistas con cuestionarios estructurados se realizaron dos veces a 115 habitantes de la ciudad: cuando comenzaron en la huerta y unos 6 meses después. El cuestionario incluyó preguntas relacionadas con las prácticas ambientales. La segunda evaluación también incluyó preguntas sobre el consumo de alimentos orgánicos, verduras y frutas.

Resultados: Se observó una transformación conductual significativa, incluidos resultados positivos en prácticas ambientales como el reciclaje o intentar generar basura o intentar reciclar, la creación de compost o el elegir caminar o ir en bicicleta para ir al trabajo, en la opinión de los participantes, las prácticas agrícolas en el jardín comunitario ayudaron a aumentar el consumo de frutas, verduras y alimentos orgánicos.

Conclusión: Los resultados del estudio reflejaron la hipótesis de que un huerto comunitario orgánico urbano induce cambios conductuales significativos entre sus usuarios. En particular, esta investigación sugiere que la horticultura se asocia con mejoras positivas en los comportamientos ambientales y la conciencia de la alta prioridad social del medio ambiente y un mayor consumo de alimentos orgánicos, frutas y verduras.

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22-08-2017

Hortas urbanas geram estilo de vida mais saudável

Investigação. Reúnem pessoas de todas as idades e benefícios são a nível físico e mental

DAVID MANDIM

Heve quem debicasse fumar ou reduzir a carne e o consumo de produtos processados, mas a horticultura urbana nos proporciona um estilo de vida mais saudável e a maioria dos utilizadores de hortas urbanas ganhou qualidade de vida a nível físico e mental. São as conclusões de um estudo realizado por um investigador da Escola Superior de Biotecnologia da Universidade Católica do Porto, Paula Nova, passados um ano e meio a estudar 115 pessoas que participam noutras hortas urbanas portuguesas, e verificou que os benefícios são superiores a esperados.

"É uma área em que ainda não há muita literatura a nível mundial. O que concluímos é que as pessoas passam a ter uma vida mais saudável, com impacto não só no nível dos produtos cultivados mas mesmo noutros que passam a consumir como as leguminas, o peixe. Nas hortas são os legumes, os vegetais e as ervas aromáticas mas a mudança de hábitos vai além disso, o que é muito interessante", disse ao DN Paulo Nova, prudente na divulgação das causas. "É preciso fazer mais investigação, e vamos fazer. Mas terá que vir com a relação estabelecida com a natureza e com os outros pessoas. A relação social nas hortas é muito importante." Com o stress de vida urbana, as hortas funcionam como impulso para uma melhor qualidade de vida.

Nas hortas urbanas no Conde Ferreira, criada pela LIPOR e pela Santa Casa de Misericórdia do Porto, há um universo de utilizadores vasto. "Encontramos uma representação de populações urbanas. A média de idades é 54 anos, mas há pessoas de 24 anos e outras com mais de 70", revela o investigador em biotecnologia e inovação. Cada um dos hortelões foi analisado durante seis meses. A maioria está empregada e tem níveis elevados de escolaridade. Cerca de 30% são reformados. São pessoas que aproveitam muito as hortas para também socializar. Não ficam em casa a ver TV. E são muito importantes para receberem novos, vão explicar como se rega, o que se cultiva."

Paulo Nova diz que em Portugal ainda há pouco de hortas urbanas, preferem nas filas de espera existentes em vários dos espaços existentes. A LIPOR, empresa intermunicipal de tratamento de resíduos, tem apostado na criação de hortas urbanas nos concelhos do Grande Porto e atualmente existem 51 hortas, que permitem a centenas de pessoas cultivar. Em Portugal, segundo um estudo da associação ambientalista Zero, há 58 municípios que disponibilizam espaços para hortas urbanas. Calmarães é o concelho com mais hortelões registados, 370. Funchal, Lisboa, Porto e Gaia são os seguintes. Nos municípios que ainda não tinham hortas, 73% manifestaram intenção de investir na criação de espaços.



Hortas reúnem todo o tipo de pessoas mas reformados são 30%

VISAIO

Assinar | Loja

As hortas urbanas fazem bem à saúde, conclui estudo

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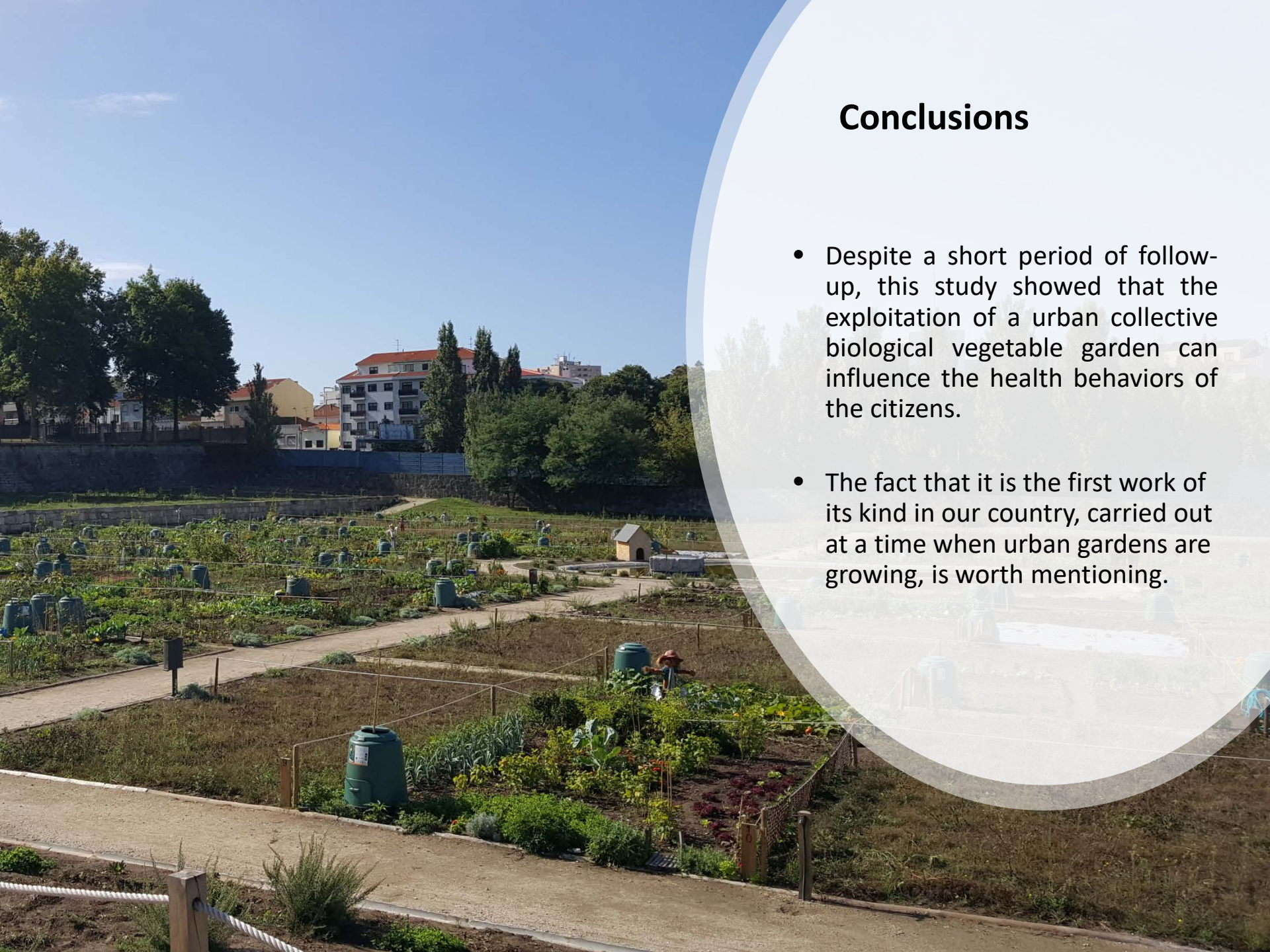


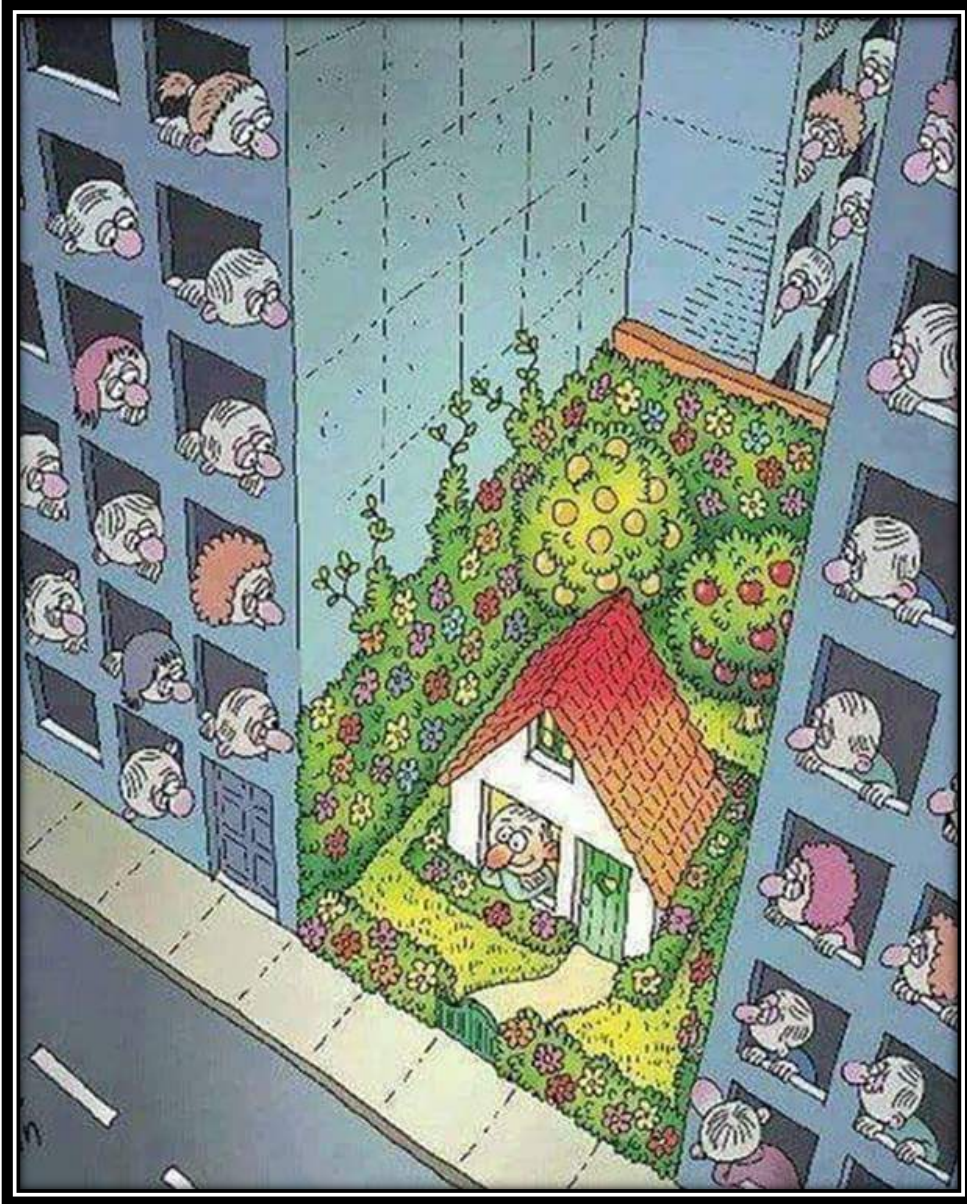
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Conclusions

- Despite a short period of follow-up, this study showed that the exploitation of a urban collective biological vegetable garden can influence the health behaviors of the citizens.
- The fact that it is the first work of its kind in our country, carried out at a time when urban gardens are growing, is worth mentioning.





Thank you for
Your Attention!!

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