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The Impact of Urban Home Gardens on The Mental Well-Being of Women in The Greater Jakarta Area

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ABSTRACT

Promoting positive mental health is of utmost importance, especially in today's urban context, as recognized by the World Health Organization. However, the scarcity of green spaces in urban areas presents challenges for fostering a connection with nature. To address this gap, this study investigates the distinctive contribution of urban home gardens to the mental well-being of women in the Greater Jakarta Area. Through an online survey, participant backgrounds and mental well-being were assessed using the WEMWBS scale. Validity and reliability were established using Pearson's product-moment correlation and Cronbach's alpha, respectively. The study unravels several influential factors, including garden interaction (visit frequency and duration) and size. Crucially, it advances the literature by shedding light on the original contribution of urban home gardens to mental well-being. Notably, women who visit their urban home garden more than seven times a week and spend over two hours per day in their garden report the highest levels of mental well-being. These findings highlight the unique role of urban home gardens in promoting mental well-being among urban women. Consequently, they hold implications for policymakers and practitioners aiming to enhance mental well-being and foster access to green spaces in urban areas.

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Highlights	Contribution to the field statement
- This study reveals the positive impact of urban home gardens on the mental well-being of women in Greater Jakarta Area. - Women who visited their home garden more than seven times a week and spent more than thirty minutes per day in their garden reported the highest levels of mental well-being. - Research highlights the unique role of home gardens as accessible green spaces, offering potential solutions to improve mental well-being in urban settings. - This study provides valuable insights for policy makers and practitioners aiming to promote mental health and increase access to green spaces in urban areas.	This study significantly contributes to the existing literature by examining the impact of urban home gardens on the mental well-being of women in the Greater Jakarta Area. It sheds light on the unique role of home gardens in promoting mental well-being, particularly for urban women. The findings provide valuable insights into the positive effects of frequent garden interaction. This research expands the knowledge base and offers new insights for policymakers and practitioners aiming to enhance mental well-being and improve access to green spaces in urban areas.

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1. Introduction

The field of mental health has received considerable attention in recent years, with a growing emphasis on the significance of positive mental well-being. The World Health Organization (WHO) recognizes the crucial role of positive mental health in enabling individuals to trust their abilities, effectively cope with life's challenges, perform productively, contribute meaningfully to their communities, and ultimately enhance their overall quality of life (Tennant et al., 2007). In line with this, the WHO has provided recommendations for sustaining mental health and psychosocial well-being, including engaging with nature as a healthy living practice. Notably, (Krols et al., 2022) have highlighted the numerous health benefits associated with exposure to nature, which include improved subjective well-being, enhanced quality of life, and reduced stress levels.

Furthermore, (Pouso et al., 2020) conducted a study revealing that maintaining contact with nature during stressful life events can aid in the preservation of mental health. Notably, individuals residing in greener rural areas reported fewer symptoms of mental and physical ailments compared to their urban counterparts. However, the rapid urbanization observed in densely populated regions such as the Greater Jakarta area has led to a scarcity of available land that can be utilized as green open spaces (GOS) (Budiman et al., 2014).

The situation was further exacerbated by the mobility and social restrictions implemented during the Covid-19 pandemic, making it increasingly challenging for urban communities to access green open spaces. The government's implementation of Large-Scale Social Restrictions (PSBB) meant that individuals were confined to their homes, with transportation, office activities, schools, recreational areas, parks, and places of worship all closed. This quarantine policy had significant adverse effects on society, notably contributing to a decline in psychological well-being. (Elvira et al., 2021) conducted a survey in the Jakarta Greater Area and discovered that 14% of the residents displayed moderate to severe anxiety (11.82% moderate and 2.17% severe) during the pandemic. Importantly, their findings highlighted a higher prevalence of depressive symptoms among women, suggesting that they were more vulnerable to psychological distress. Various factors, such as experiencing domestic violence, longer working hours compared to men, and the responsibility for household chores, contributed to heightened psychological stress among women during the pandemic.

In light of these circumstances, home gardens have emerged as a potential alternative to fulfill the need for interaction with nature, particularly for married women. (Pérez-Urrestarazu et al., 2021) found that homes with open areas, such as terraces or green spaces, played a supportive role during periods of isolation. Both visual and physical exposure to plants have been linked to increased positive behavior and pleasurable feelings, while also mitigating negative emotions such as anger, fear, and stress. Building upon these findings, the present study aims to further investigate the mental well-being of women in urban areas, specifically the Jakarta Greater Area, and explore their patterns of interaction with private garden houses. This exploration will include examining the frequency of visits, duration of visits, types of activities engaged in, as well as the size and positioning of the private garden houses. By delving deeper into these aspects, the study aims to contribute to the existing body of knowledge and provide valuable insights for promoting mental well-being among urban women.

2. Methods

2.1. Research Location and Time

This study was conducted from July 2021 to May 2022 in the Greater Jakarta Area, located at 6.2175° S, 106.8178° E. The Greater Jakarta Area or commonly known as Jabodetabek is an urban area in Indonesia that is integrated with Jakarta, consisting of the city of Jakarta and its surrounding areas, especially Bogor, Depok, Tangerang, and Bekasi. The Greater Jakarta Area is one of the largest greater cities in the world and also the largest urban area in Southeast Asia with a population exceeding 31.24 million people and the number of married respondents was 9,308,269 people (BPS 2021; BPS 2022), making the Greater Jakarta area one of the most densely populated areas in Indonesia. The Greater Jakarta Area has an area of 6,437.89 km2 accounting for 0.34% of Indonesia's total area of 1,916,906.77 km^2 (Kementerian Pekerjaan Umum dan Perumahan Rakyat, 2008).

Figure 1. Map of Greater Jakarta Area (Google Earth, 2022).

2.2. Data Collection and Respondents

In this study, data were collected through an online questionnaire and respondents were determined using the Snow Ball sampling method. The sample population was obtained as many as possible according to the results of the questionnaire distribution (over 100 respondents from all over the Greater Jakarta Area). Questionnaires were distributed through social media such as WhatsApp, Instagram, Twitter, and LinkedIn to married women (married, divorced, and widowed) aged 19-60 years in the Greater Jakarta Area randomly. The research subjects who filled out the questionnaire were reviewed to comply with the described criteria.

The present study began with a survey to find out the demographic background of the respondents, including age, marital status, educational background, occupation, age of the children they had, and subsequently measured the participants' mental well-being conditions, by asking respondents to answer a 5-point Likert scale (such as very good, good, fair, bad and very bad). This mental well-being condition was assessed using the Indonesian language version of the Warwick Edinburgh Mental Well-Being (WEMWBS) scale (Wicaksono et al., 2021). The condition of mental well-being of the respondents in the study was measured using The Warwick-Edinburgh Mental Well-being Scale (WEMWBS), which is a scale developed and used to measure a person's level of mental well-being. The English version of the WEMWBS has good validity and internal consistency with Cronbach's alpha 0.89/0.91 and reliability (retest reliability of 0.83) (Tamminen et al., 2020) whereas in this study the WEMWBS had good validity and a good level of consistency with Cronbach's alpha coefficient of 0.94. This scale is suitable for measuring mental well-being on a population scale (large and broad) because of its strong psychological measurement/assessment. This scale consists of 14 question items and each item used a five-point Likert response format and the cumulative score of the items ranges from 14 to 70. A higher score represents a high level of mental well-being. Three categories of mental well-being were created based on the results of the WEMWBS score, namely a Low level of mental

well-being if the score was less than 44, a High level of mental well-being if the score was more than 61, and a Moderate level of mental well-being for the rest. Furthermore, the condition of the home garden and participants' interactions with the home garden including the area of the garden and patterns of interaction including the frequency and duration spent in the home garden were also investigated. All of these surveys were conducted online, before filling out the questionnaire, participants were presented with the procedure for filling out the survey and debriefed about the study objectives to prevent confusion among the participants.

2.2. Data Analysis

The results of the questionnaire were analyzed to determine validity and reliability using the Pearson product-moment correlation (validity) and Cronbach's alpha (reliability). Data from the sample were analyzed using descriptive analysis, while also using correlation. The data processing application that was used is IBM SPSS version 26.

3. Results and Discussion

3.1 Demographic Characteristics

The total number of subjects involved in this study was 160 people and for the final sample, there were 109 people who met the criteria in this study, namely aged 19-60 years, married women (married, divorced, and widowed), and living in the area Greater Jakarta Area.

Table 1. Sociodemographic data by level of mental well-being, and Mean and Standard Deviation.

Category	Sample (n=109)	WEMWBS		
		Mean ± SD	Category	*p*-value
Age				
Early Adult (19-40 years old)	*n* = 51 (46.8%)	55.9 ± 11.38	Moderate	.267
Middle Adult (41-60 years old)	*n* = 58 (53.2%)	56.3 ± 8.3	Moderate	
Occupation				
Housewife	*n* = 50 (45.9%)	55.66 ± 8.297	Moderate	.317
Employee	*n* = 59 (54.1%)	56.56 ± 9.663	Moderate	
Income				
Not Earning	*n* = 3 (2.8%)	62.67 ± 2.082	High	.059
< IDR 2,000,000/month	*n* = 11 (10.1%)	59.09 ± 8.848	Moderate	
IDR 2,000,000 – IDR 4,000,000/month	*n* = 17 (15.6%)	48.94 ± 11.771	Moderate	
IDR 4,000,000 - IDR 6,000,000/month	*n* = 20 (18.3%)	54.95 ± 9.478	Moderate	
> IDR 6,000,000/month	*n* = 58 (53.2%)	57.67 ± 8.771	Moderate	
Education				
Junior High School	*n* = 1 (0.9%)	64	High	.619
Senior High School	*n* = 13 (11.9%)	52.46 ± 13.329	Moderate	
Diploma 1/2	*n* = 6 (5.5%)	54.0 ± 13.008	Moderate	
Diploma 3/Academy	*n* = 24 (22%)	56.83 ± 6.703	Moderate	
Bachelor	*n* = 55 (50.2%)	56.2 ± 9.73	Moderate	
Master	*n* = 10 (9.2%)	58.9 ± 10.115	Moderate	
Number of Children				
No children	*n* = 30 (27.5%)	55.43 ± 12.414	Moderate	.458
1 (one)	*n* = 13 (11.9%)	54.54 ± 8.222	Moderate	
2 (two)	*n* =37 (33.9%)	56.59 ± 9.593	Moderate	
3 (three)	*n* = 25 (22.9%)	56.96 ± 7.464	Moderate	
More than 3	*n* = 4 (3.7%)	56.0 ± 11.045	Moderate	
Chronic Diseases				
Hearth Failure	*n* = 1	56 ±	Moderate	.724
Hypertension	*n* = 2	46.5 ± 4.95	Moderate	
Diabetes	*n* = 1	58	Moderate	

None	*n* = 105	56.29 ± 9.881	Moderate	
Status of Residence				
Own residence	*n* = 11	51.27 ± 12.939	Moderate	.631
Living with nuclear family (husband, wife, and child)	*n* = 78	56.59 ± 9.167	Moderate	
Living with extended family/ relatives	*n* = 20	56.8 ± 10.103	Moderate	
Number of people living with				
0	*n* = 4	55.0 ± 18.493	Moderate	.402
1 (one)	*n* = 10	56.8 ± 7.052	Moderate	
2 (two)	*n* = 9	54.56 ± 11.501	Moderate	
3 (three)	*n* = 26	54.88 ± 8.468	Moderate	
4 (four)	*n* = 21	56.24 ± 11.541	Moderate	
5 (five)	*n* = 29	57.55 ± 9.553	Moderate	
>5 (more than 5 people)	*n* = 10	55.8 ± 8.779	Moderate	

Respondents' ages were grouped into two groups based on the grouping of the Central Bureau of Statistics, namely the early adult age group (19-40 years old) and the middle adult age group (41-60 years old). This study restricted participants' age to 60 years because the age over 60 years or commonly called old age becomes the closing period in a person's life span. At this age, physical and psychological changes begin to decline so that productivity decreases and is limited compared to a younger age. Thus, activities that can be done in the Home Garden becomes also more limited. The early adult age group in this study made up 46.8 percent of the total respondents and the middle age group was 53.2 percent. Most of the respondents had higher education, where as many as 50.5 percent of respondents had a university degree, namely a bachelor's degree, while the lowest education was junior high school, as many as 0.9 percent. In terms of occupation, the majority of respondents were housewives/not working as many as 45.9 percent, followed by employees as many as 54.1 percent with the highest income of more than IDR 6,000,000/month (53.2%) and the lowest is below 2,000,000/month. 27.5 percent of respondents did not have children, while 11.9 percent had one, 33.9 percent had two, 22.9 percent had three, 3.7 percent had more than three children under 5 years, and 13.8% of respondents had children with special needs (Table 1).

3.2 Well-being Condition

The results of this study indicate that within the Greater Jakarta Area, a significant proportion of women exhibited varying levels of mental well-being. Specifically, 39 individuals (35.8%) displayed a high level of mental well-being, while 58 respondents (53.2%) demonstrated a moderate level and followed by 12 respondents (11%) in the Greater Jakarta Area reported a low level of mental well-being. The average score on the Warwick-Edinburgh Mental Well-being Scale (WEMWBS) in this study was 56.09, as shown in Table 2. These results provide evidence that women in the Greater Jakarta Area have attained sustainable mental well-being, characterized by a healthy and prosperous mental state. This state is characterized by reduced levels of stress, guilt, depression, and other negative emotions.

In the contemporary psychological context, the definition of well-being has evolved to encompass various dimensions, including physical, socio-emotional, spiritual, cognitive, and behavioral aspects (Manita et al., 2019). The Oxford dictionary defines wellness as a state of good health, while well-being refers to a positive condition in an individual's life, such as happiness, health, or prosperity (McMahon et al., 2010). When viewed in a broader sense, well-being is a comprehensive construct that can be approached from two perspectives: the hedonic perspective, which focuses on subjective well-being and life satisfaction, and the eudaimonic perspective, which centers on psychological well-being and self-realization. Positive mental health encompasses factors such as self-esteem, optimism, a sense of mastery and coherence, fulfilling personal relationships, and resilience—the ability to navigate challenges and cope with stressors (Ryan & Deci, 2001).

Table 2. Data based on WEMWBS score.

WEMWBS	***N***	**%**
Low	12	11
Moderate	58	53.2
High	39	35.8
Mean±Stdev	56.09±9.798	

3.2.1 Mental Well-being from Sociodemographic Status

The results of the correlation analysis that has been conducted based on the data of this study indicated that there was no strong and significant relationship (Table 3). Thus, it can be concluded that sociodemographic factors are not associated with the mental well-being of the respondents living in the Jakarta Greater Area. This can happen because individuals' well-being can be influenced by many factors aside from sociodemographic factors, namely demographic factors (Ryff, 1989), personality (Ryan & Deci, 2001), social support (Shujaat, 2018) as well as contextual and situational factors (van Hoorn, 2008).

Table 3. Correlation between sociodemographic status and level of mental well-being.

	Variable/factor	
	Age	Occupation
WEMWBS	.750	. 674
	Income	Education
WEMWBS	.541	.422
	Number of children	Chronic disease
WEMWBS	.959	.331
	Status of residence	Number of people living with
WEMWBS	.200	.967

Note: (*) p-value ≤ 0.05, (**) p-value ≤ 0.01; p-value correlation between mental well-being and sociodemographic characteristics.

3.2.2 Level of Mental Well-being by Interaction Patterns

3.2.2.1 Interaction with Outdoors

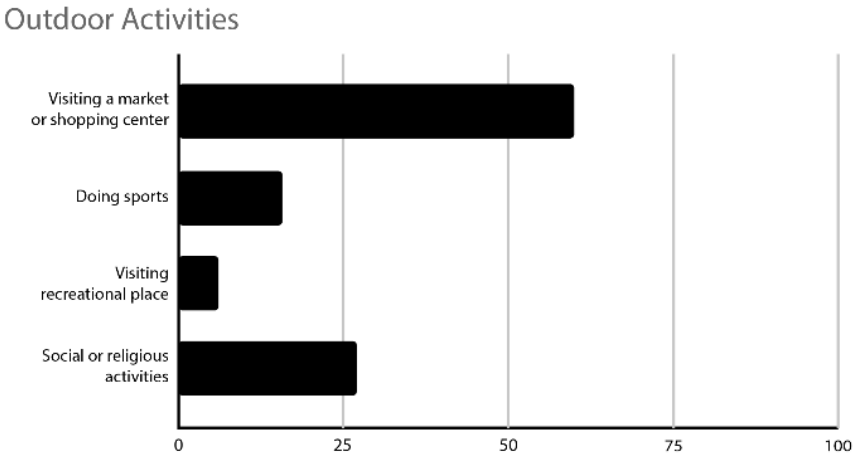

Figure 2. Outdoor activities performed by respondents living in Greater Jakarta (respondents can choose more than one activity).

The results show that almost half of the respondents who filled out the questionnaire admitted that they only left their homes 1-2 times a week (45.9%) (table 4). In term of activities carried out by the respondents in the Greater Jakarta Area beside routine activities such as work or school, 60 Respondents in the Greater Jakarta Area visited markets/shopping centers (55%) to meet their needs, 16 Respondents did sports (14.7%)), 6 respondents visited recreational areas (5.5%) and 27

respondents attended social and religious events (E.g., Muslim forum, rotating savings, prayer, social services, and so on.) (Figure 2).

Table 4. Data based on outdoor interaction with level of mental well-being as well as Mean and Standard Deviation.

Category	Sample (*n*=109)	Level of Mental Well-being (WEMWBS)		
		Mean±SD	Category	*p*-value
Frequency of weekly outdoor activity				
Never	*n* = 4 (3.7%)	49.5 ± 10.97	Moderate	.269
1-2 times a week	*n* = 50 (45.9%)	55.84 ± 9.43	Moderate	
3-4 times a week	*n* = 24 (22.0%)	57.46 ± 8.11	Moderate	
5-6 times a week	*n* = 15 (13.8%)	55.67 ± 10.06	Moderate	
6-7 times a week	*n* = 16 (14.7%)	56.87 ± 12.89	Moderate	

The results of the study from the correlation analysis as presented in Table 5 indicate that there was no significant correlation between the frequency of weekly leaving the house and the level of mental well-being among respondents living in the Greater Jakarta Area. This finding may be attributed to the fear of contracting COVID-19, which is still prevalent among respondents. Fear of transmission is likely to undermine the mental health benefits of outdoor activities and may help explain why in some areas the number of visitors to green spaces during the pandemic declined (Marques et al., 2021).

Table 5. Correlation between outdoor interaction pattern and level of mental well-being.

	WEMWBS
Frequency of weekly outdoor	.477

Note: (*) *p*-value ≤ 0.05, (**) *p*-value ≤ 0.01; *p*-value of correlation between mental well-being and frequency of weekly outdoor activities.

3.2.2.2 Interaction with Public Green Space

Table 6. Data based on public green interaction patterns and level of mental well-being as well as Mean and Standard Deviation.

Category	Sample (*n*=109)	Level of Mental Well-being (WEMWBS)		
		Mean±SD	Category	*p*-value
Frequency of public green visits				
Never	*n* = 36 (33%)	53.83 ± 11.08	Moderate	.212
1-2 times a week	*n* = 59 (54.1%)	56.86 ± 8.53	Moderate	
3-4 times a week	*n* = 9 (8.3%)	61.78 ± 6.32	Moderate	
5-6 times a week	*n* = 2 (1.8%)	48.5 ± 14.85	Moderate	
6-7 times a week	*n* = 3 (2.8%)	56 ± 18.52	Moderate	
Travel Duration				
< 5 minutes	*n* = 22 (20.2%)	60.5 ± 7.61	Moderate	.093
5-10 minutes	*n* = 27 (24.8%)	55.48 ± 10.39	Moderate	
11-30 minutes	*n* = 34 (31.2%)	53.29 ± 9.80	Moderate	
31-60 minutes	*n* = 14 (12.8%)	59.29 ± 7.19	Moderate	
> 60 minutes	*n* = 12 (11%)	53.58 ± 11.98	Moderate	

In addition, during the past month respondents visited public green areas at least 1-2 times a week (54.1%) with travel time to reach the nearest green area varying from >5 minutes (20.2%), 5-10 minutes (24%), 11-30 minutes (31.2%), 31-60 minutes (12.8%) and >60 minutes (11%) (table 6). Based on the available data, it is evident that the frequency of visits to public green spaces by the respondents remains extremely low. This lack of visits can likely be attributed to concerns about contracting Covid-19 (Marques et al., 2021). Despite the relaxation of community activity restrictions, the number of respondents visiting public green spaces remains consistently low. This apprehension not only diminishes the mental health benefits derived from outdoor activities but also leads to the absence of a correlation between the level of mental well-being and general interactions with green

spaces, as indicated in Table 7. Additionally, it was observed that respondents exhibited a preference for visiting nearby parks, which aligns with previous research (Xie et al., 2020) highlighting that people tend to opt for parks in their immediate vicinity that can be reached within 10 minutes. This preference further emphasizes the significance of having a private home garden, which serves as a convenient alternative for enhancing an individual's well-being. Notably, even in this study, respondents required 11-30 minutes to reach public green open spaces, reinforcing their inclination to interact with their private gardens. The ease of access afforded by home gardens enables individuals to visit and engage with green spaces more frequently, eliminating the need for long-distance travel or significant expenses to connect with nature.

Table 7. Correlation between public green space interaction pattern and level of mental well-being.

	WEMWBS
Frequency of public green space visit	.244
Travel duration	.093

Note: (*) p-value ≤ 0.05, (**) p-value ≤ 0.01; p-value of correlation between the level of mental well-being and public green space interaction pattern.

3.2.2.3 Interaction with Home Garden

Table 8. Data based on home garden interaction pattern and level of mental well-being as well as Mean and Standaard Deviation .

Category	Sample (n=109)	WEMWBS		
		Mean±**SD**	Category	p-value
Frequency of home garden visit				
Never	n = 26 (23.9%)	49.65±10.68	Moderate	
1-2 times a week	n = 4 (3.7%)	42.5±7.37	Low	
3-4 times a week	n = 12 (11%)	56.75±6.94	Moderate	.000
5-6 times a week	n = 10 (9.2%)	58.50±5.99	Moderate	
6-7 times a week	n = 57 (52.3%)	59.42±8.26	Moderate	
Duration of home garden activities				
Never	n = 26 (23.9%)	49.65±10.68	Moderate	
<30 minutes a day	n = 47 (43.1%)	56.91±8.37	Moderate	
1 hour a day	n = 18 (16.5%)	59.06±7.56	Moderate	.193
2 hours a day	n = 9 (8.3%)	63 ± 6.82	High	
> 3 hours a day	n = 9 (8.3%)	57.67±11.53	Moderate	

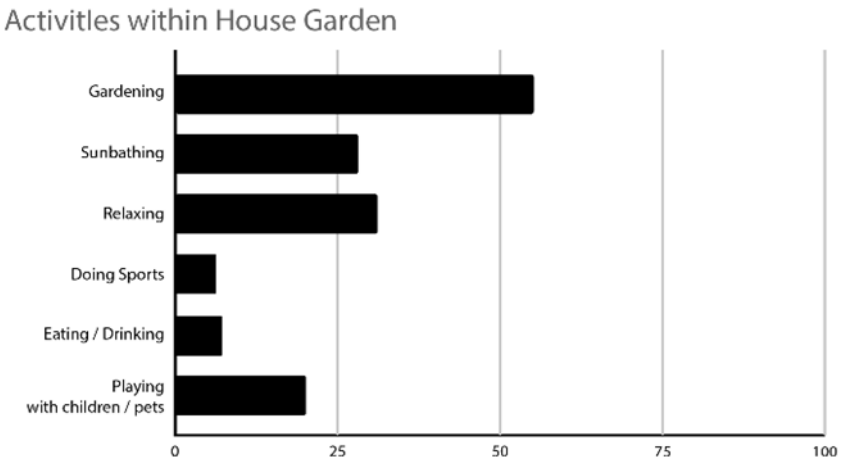

Figure 3. Home garden activities performed by the respondents living in Greater Jakarta (respondents can select more than one activity).

The results of this study indicate that as many as 57 respondents (52.3%) in the Greater Jakarta Area over the past month have visited the home garden more often, at least 6-7 times a week, and spent less than 30 minutes a day (42.2%) (table 8). They performed various activities including gardening, sunbathing, relaxing, exercising, eating/drinking, and playing with children/pets. The most frequent activity in their home garden was gardening (picture 3). On average, the findings of this study indicate that respondents in the Greater Jakarta Area had a moderate level of well-being, which improved as their interactions with their home gardens became more frequent. These results align with the outcomes of the correlation analysis conducted between the frequency of visits, duration of time spent in the home garden, and the respondents' mental well-being. The analysis revealed a positive relationship between these interactions and the level of well-being (see Table 9). Consequently, it can be inferred that more frequent interactions with the home garden correspond to higher levels of well-being. This reaffirms the significant role of visiting a home garden in enhancing mental well-being. Furthermore, longer durations spent in the home garden provide individuals with greater benefits, and consistent weekly visits have shown a noteworthy increase in the level of mental well-being.

Supporting these findings, (Elsadek et al., 2019) conducted a study comparing buildings with green facades to those without. The results revealed distinct differences that influenced the relative strength of alpha brain waves. Notably, participants exhibited consistently higher alpha wave amplitudes when observing green facades compared to regular building walls. Increased alpha wave activity has been associated with reduced stress levels and is commonly observed during states of rest, concentrated meditation, and relaxation. Alpha wave activity also plays a vital role in neuronal networks and has been linked to cognitive performance, mental coordination, calmness, attention, and overall awareness. Moreover, a study conducted in the UK by (Pouso et al., 2020) demonstrated that spending a minimum of two hours per week in a blue-green environment outdoors could yield significant well-being benefits for more than 20,000 individuals. The study also highlighted that daily durations of 30 minutes to one hour spent in these environments could contribute to improved well-being. Furthermore, research by (Xie et al., 2020) indicated that three hours of daily interaction with nature represented the upper threshold for individuals, suggesting that 30 minutes to one hour per day is sufficient to derive benefits. In summary, the findings of this study underscore the positive association between interactions with home gardens and the well-being of respondents in the Greater Jakarta Area. Increasing the frequency of visits, extending the duration spent in the home garden, and adhering to consistent weekly visits contribute to enhanced well-being. These outcomes align with previous research that demonstrates the positive effects of nature interactions on mental well-being, including reduced stress levels, increased alpha wave activity, and cognitive benefits.

Table 9. Result of correlation analysis between the level of mental well-being and frequency of home garden visit and duration of activites in home garden.

	WEMWBS
Frequency	.000**
Duration	.001**

Note: (*) p-value ≤ 0.05, (**) p-value ≤ 0.01; p-value of correlation between level of mental well-being and frequency of home garden visit and duration of activities in the home garden.

3.2.3 Level of Mental Well-being by Home Garden Conditions

Based on the results of this study (Table 10), 83 respondents (76.1%) had a home garden, while 26 respondents (23.9%) did not have a home garden. As many as 27 respondents (24.8%) living in the Jakarta Greater Area in this study had a garden area of less than 5 m^2, while 25 respondents (22.9%) had a home garden of 6-10 m^2. From the results, the average level of mental well-being of the respondents living in the Jakarta Greater Area was at a moderate level.

Table 10. Data based on the condition of the home garden by the level of mental well-being as well as the Mean and Standard Deviation.

Category	Sample (*n*=109)	WEMWBS		
		Mean±**SD**	Category	*p*-value
Size of the garden				
No garden	*n* = 26 (23.9%)	49.65±10.68	Moderate	.048
Less than 5 m^2	n = 27 (24.8%)	56.19 ± 8.85	Moderate	
6-10 m^2	n = 25 (22.9%)	57.44 ± 9.05	Moderate	
11-15 m^2	n = 8 (7.3%)	56.88 ± 3.18	Moderate	
16-20 m^2	n = 4 (3.7%)	60.25 ± 14.85	Moderate	
> 20 m^2	n = 19 (17.4%)	61.79 ± 8.66	High	

The findings of the correlation analysis indicate a significant positive relationship between the size of home gardens and the level of mental well-being among respondents residing in the Jakarta Greater Area (Table 11). This implies that larger home gardens are associated with higher levels of mental well-being for individuals in urban settings. Despite the constraints by limited land availability in urban areas, this study emphasizes the significant positive influence that small home gardens can have on an individual's mental well-being. It is crucial to recognize and consider the size of a private home garden, ensuring that it aligns with a person's specific requirement for green space while also taking into account the overall area of the house. By carefully assessing these factors, individuals can optimize the benefits of their home gardens on their mental well-being, even within the limitations of urban living. This consideration aligns with the guidelines provided by Public Works Regulations Number 05/PRT/M/2008, which outline the provision and utilization of green open spaces in urban areas. These regulations ensure that the area of the garden corresponds appropriately to the individual's requirements for green space.

Table 11. Result of correlation analysis between mental well-being and position and size of home garden

	WEMWBS
Size	.000**

Note: (*) *p*-value ≤ 0.05, (**) *p*-value ≤ 0.01; *p*-value of correlation between the level of mental well-being and position and size of home garden.

4. Conclusions

In summary, the study focused on women in the Greater Jakarta Area and their interaction patterns with home gardens. It found that the women generally had a moderate level of mental well-being (53.3%), with a high level observed in 35.8% of participants and a low level in 11% of participants. The women spent more time in their home gardens, typically 6-7 times a week for less than 30 minutes each day, compared to outdoors or public green areas. The study revealed a positive relationship between interaction patterns and mental well-being, indicating that those with more frequent interaction with their home gardens had higher levels of well-being.

The majority of home gardens in the study were small, with areas less than 5 m2 and 6-10 m2. The condition of the home garden was found to be positively associated with mental well-being. These findings support the hypothesis that even small home gardens can positively impact an individual's mental well-being, despite the limited land availability in urban areas. Furthermore, the study contributes valuable insights into the role of urban home gardens in enhancing the mental well-being of women in the Greater Jakarta Area, specifically considering interaction patterns and the characteristics of private garden houses.

By highlighting the positive impact of urban home gardens on mental well-being, even in limited spaces, this study underscores the importance of promoting positive mental health in urban contexts. The findings offer valuable information for policymakers and practitioners seeking to enhance mental well-being and improve access to green spaces in urban areas. Given the constraints imposed by the

COVID-19 pandemic, which hindered the collection of in-person data for this study, future research could benefit from incorporating in-person data collection methods. This would allow for a more diverse and representative sample, reducing potential biases and enhancing the generalizability of the findings.

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Conflicts of Interest
The authors declare no conflict of interest.

Data availability statement
The original contributions presented in the study are included in the article, further inquiries can be directed to the corresponding author/s.

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