

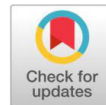
Research Article

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Exploring Horticultural Therapy as a Potential for Social and Emotional Well-being in Urban Areas

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ABSTRACT

This research study survey explores the potential of utilizing horticultural therapy as an effective means to enhance social and emotional well-being in urban settings. As cities around the world grapple with growing population densities and the associated stress of urban life, the demand for effective interventions that can provide comfort, foster connections, and promote personal growth has become increasingly crucial. Horticultural therapy, by establishing green havens amidst urban sprawl, not only fosters the development of practical gardening skills but also instills a deep sense of achievement and relaxation. This therapeutic approach can mitigate stress, alleviate symptoms of anxiety and depression, and facilitate social interactions, thus making a significant contribution to the overall welfare of urban dwellers. The study emphasizes the necessity of further research and the integration of horticultural therapy into urban planning and healthcare strategies, recognizing its potential to enhance the quality of life in bustling urban landscapes. Keeping in view urbanization and the green area around the Chandigarh city, a home gardening-related questionnaire was developed, following a series of in-depth discussions with members of the faculty of horticulture at Chandigarh University and amateur gardeners in and around Chandigarh about the specifics and peculiarities of the local gardening practices. The investigation proved horticultural therapy as a means of improving the emotional and social well-being of urban populations shows great promise.

Keywords: Horticultural therapy, home gardening, quality life, urban planning, urban landscape

Introduction

Home gardening has formed a long-standing tradition since the dawn of humanity. It entails growing plants and vegetables in one's own home, whether that be in a large garden, a compact balcony, or even simply a sunny windowsill. Home gardening has developed over time from a subsistence activity to a multidimensional activity that includes a wide range of advantages and goals, making it an essential part of Horticultural therapy (HT). An occupational therapy subspecialty is HT^[1]. Horticultural therapy is described as supervised horticultural activities carried out as part of a formal therapeutic, rehabilitative, or occupational program by the American Horticultural Therapy Association^[2]. With the extra advantage of supplying fresh and nourishing produce to encourage a closer relationship with nature. The link between the beneficial health effects associated with gardening can be traced to a larger body of literature^[3]. Increased food security, particularly in places with high poverty rates, healthier and tastier food alternatives, cost savings, and the opportunity for more outdoor time are all advantages of gardening^[4]. A group of community-dwelling, clinically depressed individuals discovered that horticultural treatment was successful in raising their attention and depression ratings^[5]. Horticultural therapy is a practice that uses gardening and other plant-related

activities to improve people's well-being^[6], whether they are having problems with their physical or mental health or simply want to take advantage of the therapeutic properties of working with plants. According to a study, patients with brain damage could benefit from an intervention in a hospital horticulture garden in terms of their recovery, reduction of stress, feelings of well-being, and promotion of social interaction and re-employment^[7]. Gardening and horticultural therapy both have the effect of boosting one's self-esteem during the COVID-19 pandemic, in residents of rural communities^[8].

Research and Methodology

The present study "Exploring Horticultural Therapy as a Potential for Social and Emotional Wellbeing in Urban Areas", examines home garden trends to evaluate the benefits of home gardening by surveying urban residents. The research involves a baseline survey to examine whether home gardening, which has many beneficial impacts on people's physical, mental, and emotional health, can be considered a form of horticultural therapy.

Selection of Area

A necessary component of the investigation is the choice of the pertinent region. Chandigarh City is the location chosen for the study. Chandigarh, the most developing city in India, is developing on all fronts and has a significant number of homes with little to no outdoor space. People no longer have much space surrounding their homes for gardening because of urbanization. Keeping in view urbanization and the green area around the city, a home gardening-related questionnaire was developed.

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Selection of Sample

The questionnaire was developed following a series of in-depth discussions with members of the faculty of horticulture at Chandigarh University and amateur gardeners in and around Chandigarh about the specifics and peculiarities of the local gardening practices. According to established standards for questionnaire development [9], the selection of the questions was made with suitable options.

Selection of tool

The most crucial element in conducting a research study is choosing the right tool. To gather data about home gardening, an online survey form was created and circulated widely among different age groups of people. The uniform information that an online survey gives, ensures that the data can be compared, which is one of its key advantages.

Data collection

The information was obtained from the respondents via the Internet using a standardized questionnaire. Consolidated, categorized, tabulated, and analyzed data were gathered. The primary data of the gardeners was received from the officials of the Horticulture division of Chandigarh. The information of the secondary data is presented in the form of a data file with 102 observations of the householders that match the survey of backyard gardeners. A question from the survey's questionnaire is linked to each variable. Two pieces make up the questionnaire. (1) Biographical and demographic data and (2) Gardening parameters and emotional quotient. The first section comprises the biographical and socioeconomic details of the home and gardener, as well as information about interactions in the neighborhood, reasons for gardening, and limitations. The second section focuses on gardening techniques, including crop varieties, gardening management inputs, gardening facilities, and specialized activities.

Survey period

The survey was carried out from June 2023 to August 2023.

Result and Discussion

The results of our survey highlight the promising potential of Horticultural Therapy in enhancing social and emotional well-being in urban areas. Similar studies were conducted and concluded with the relevant findings by [10]. The substantial interest expressed by respondents underscores the need for more accessible and diverse horticultural therapy programs in urban settings which was in accordance with the results of [11]. The reported benefits of horticultural therapy, including stress reduction, mood enhancement, improved self-esteem, and enhanced social interactions, align with existing research. These findings affirm the therapeutic value of connecting with nature and plant-related activities in urban environments, offering a valuable alternative for addressing the mental and emotional health challenges often faced by urban residents.

Biographical and demographic data

Among the sample of respondents to the study, 59.80% were women and 40.20% were men. According to the survey, an overwhelming majority of people (96.10%) have access to organic food through home gardening. This remarkable percentage underscores the accessibility and popularity of organic produce grown in home gardens. It suggests that many individuals are actively choosing to cultivate their organic fruits

and vegetables, enabling them to enjoy a healthier and more sustainable food source right in their own homes. This finding highlights the positive impact of home gardening in promoting organic and environmentally friendly food choices for a significant portion of the surveyed population, similar findings were reported by [12]. Among the surveyed individuals, 72.50% fell within the age range of 25 to 40, while 1.20% were aged above 50, 1.40% were in the 41-50 age group, and a significant majority, specifically 22.50%, were below the age of 25.

Gardening parameters & emotional quotient

The fact that 77.20% of respondents reported that home gardening reduced their grocery expenses strongly supports the statement that home gardening can be an effective way to save money on groceries. This percentage represents a significant majority of participants, indicating that a substantial portion of those surveyed experienced financial benefits from their gardening efforts. Home gardening allows individuals to produce their own fruits, vegetables, and herbs, reducing their reliance on store-bought produce [13]. This not only offers cost savings but also the potential for fresher, healthier, and more sustainable food options. These findings underscore the practical advantages of home gardening as a means to lower grocery expenses, which can be especially important in times of economic uncertainty.

The report reveals that an impressive 92.20% of gardeners incorporate recycled materials as a substrate for their plants. This high percentage demonstrates a strong commitment to sustainability and eco-friendly practices within the gardening community. By reusing recycled materials as plant substrates, these gardeners are not only reducing waste but also contributing to a more environmentally responsible approach to gardening [14]. This finding underscores the growing awareness and adoption of sustainable gardening practices, aligning with broader efforts to reduce environmental impact and promote recycling. The individuals engaged in home gardening had varying durations of experience: 44.10% had been involved for less than one year, 20.60% had between one to two years of experience, 24.50% had a gardening history of three to five years, and 10.80% had been gardening for more than five years (Fig. 1). The engagement of a larger portion of individuals in recent years may be the impact of organic cultivation and indulgence of people in Horticultural activities has increased in the Covid-19 pandemic. The largest group of respondents, constituting 64.70%, began engaging in home gardening for a multitude of factors, such as a desire for fresh produce, a connection to nature, stress relief, a hobby, or even a response to external circumstances, like the COVID-19 pandemic. Understanding the specific motivations behind this shift to home gardening could offer valuable insights into the diverse range of benefits and reasons driving this trend. Among them, 10.80% were driven by only health consciousness, 2.90% aimed to save on costs, 3.90% were motivated by beautification, and 16.70% sought to enjoy fresh and organic produce (Fig.2). Various individuals had distinct living arrangements in the sample. The majority, comprising 60.80%, resided in houses equipped with a backyard. A significant portion, accounting for 35.30%, lived in apartments featuring a balcony, while a small minority of 3.10% resided in apartments without a balcony (Fig.3). The majority of the gardeners (50%) indulged in the cultivation of multiple kinds of flora followed by Ornamentals (22.50%), Vegetables and Spices (19.60%), and Medicinal and Aromatic (7.90%) (Fig. 4). The survey reported that 59.80% of

the sample were engaged in organic practices for their home gardening, while 38.20% opted for a combination of organic and chemical methods, and a mere 2% exclusively relied on chemical practices. The possible reason may be the healthy lifestyle being followed by the growers (Fig. 5).

Among the challenges faced by the home gardeners, 25.50% of respondents faced space constraints, while 23.50% struggled with managing pests and diseases. A smaller proportion, 10.80%, lacked the necessary knowledge, and 8.80% of the sample did not encounter any challenges in their home gardening endeavors. The study uncovers that the largest portion of the sample, amounting to 31.40%, encountered all the mentioned challenges (Fig. 6). This may be attributed to the fact that most of the gardeners have less experience in gardening. Most (48%) of those individuals surveyed started their home gardens as a hobby, while 47% did it for their consumption. Only a small percentage, 4.90%, listed every justification; no respondents mentioned starting home gardening for marketing goals (Fig. 7). The responses received overwhelmingly support the statement that home gardening has a positive impact on improving mental and emotional well-being. With a significant 62.70% strongly agreeing and an additional 31.40% in agreement (Fig. 8), it is clear that the majority of participants believe that engaging in home gardening activities can be emotionally and mentally beneficial. The fact that only 5.90% expressed a neutral stance suggests that even those who may not have personal experience with gardening do not strongly dispute its potential benefits. These findings emphasize the widely recognized connection between nurturing plants and nurturing one's well-being, highlighting the therapeutic and stress-relieving qualities of this age-old pastime.

Most of the responses were positive (99%) to the statement that home gardening can be taken as a pedagogical and sensory-rich educational aid for kids' development (Fig. 9). This was earlier reported by^[15] with similar findings in their studies related to determination of Educational Standards for Children with Disabilities in the Context of the United Kingdom and Sensory Gardens with accessibility features for People with Visual Impairments, respectively. The overall effect of home gardening in preventing and curing depression and anxiety was significantly high with 99% (Fig. 10). This indicates that taking gardening as a therapy is beneficial to all age groups. Our findings are also similar to the earlier studies by^[16]. In our survey regarding the psychological and emotional effects of home gardening during the COVID-19 pandemic, the majority (92%) of respondents agreed on the positive side of these issues (Fig. 11). Home gardening's role in the psychological and emotional effects of the COVID-19 pandemic was also proved in studies by^[17].

Future thrust & scope

An inclusive methodology needs to be prepared for horticultural therapy in order to provide practical and beneficial exercises for different group of people so that they can be benefited. Our results added to the question of how horticultural therapy maximizes the stress-relieving effects on different groups of people, to improve their physical and mental health as well as their quality of life.

Conclusion

To sum up, the investigation into horticultural therapy as a means of improving the emotional and social well-being of urban populations shows great promise. With our cities becoming increasingly crowded and life's pace accelerating, there is a growing demand for solutions that can offer comfort, connection, and personal development. Horticultural therapy, by creating a haven of nature within the urban landscape, not only facilitates the acquisition of practical gardening skills but also fosters a deep sense of achievement and relaxation. This therapeutic approach has the potential to mitigate stress alleviate symptoms of anxiety and depression encourage social interactions, all of which ultimately contribute to the overall welfare of city residents. As we move forward, it is crucial to persist in our research efforts and the integration of horticultural therapy into urban planning and healthcare strategies, acknowledging its ability to enhance the quality of life in our bustling urban environments.

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Authors Contributions

Conceptualization of research work and designing of experiments (ML and YS); Execution of field experiments and data collection (SP and PL); Analysis of data and interpretation (ML and AR); Preparation of manuscript (ML and YS).

All authors have read and agreed to the published version of the manuscript.

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Ethical guidelines: Ethics approval was not required for this research work.

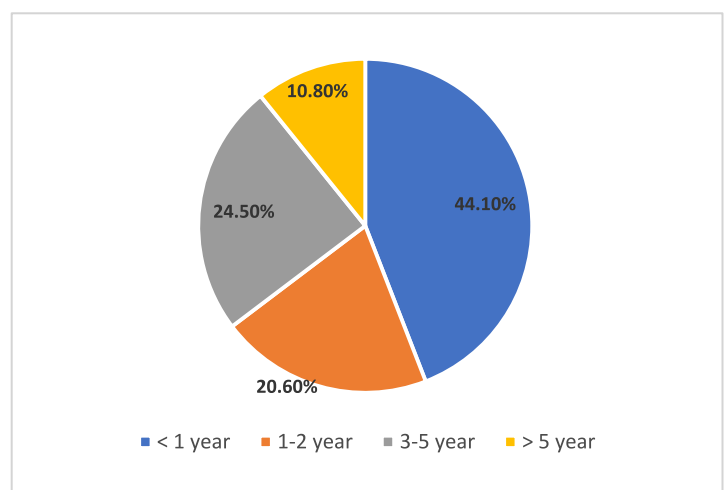


Fig. 1: Duration of people involved in home gardening.

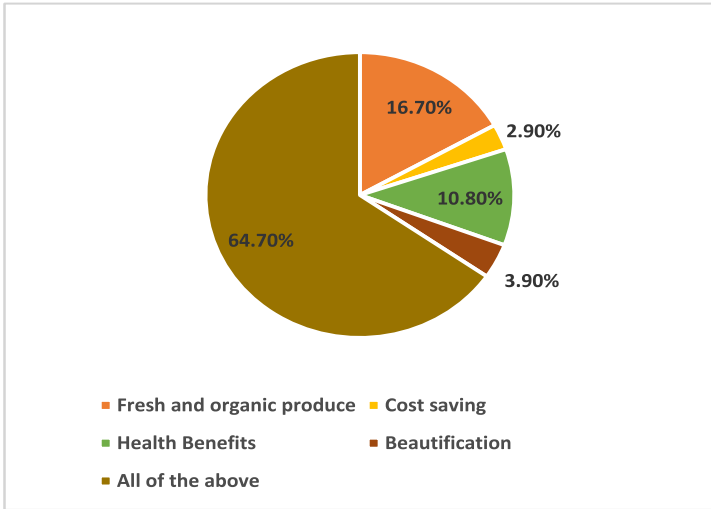


Fig.2: Reason for having home gardening

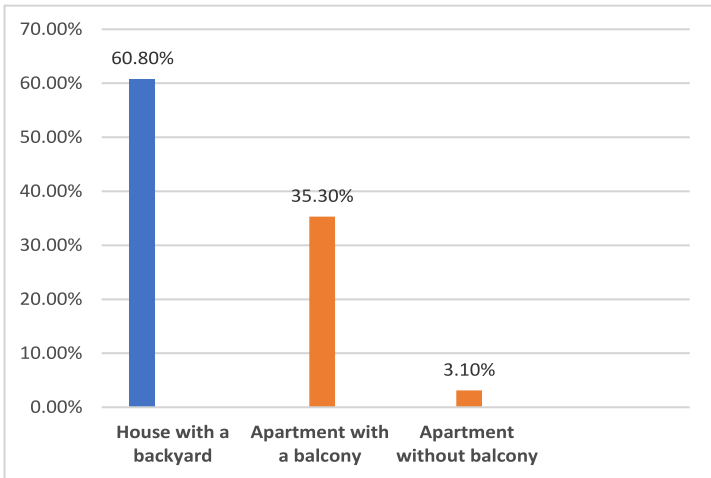


Fig.3: Living arrangements of different individuals indulged in home gardening

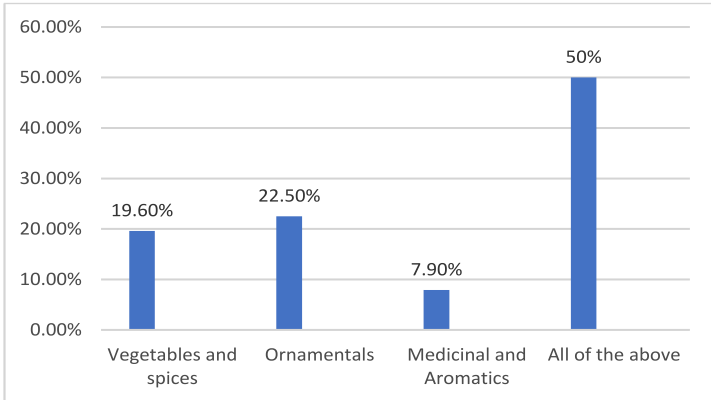


Fig.4: Different groups of plants grown in home gardening

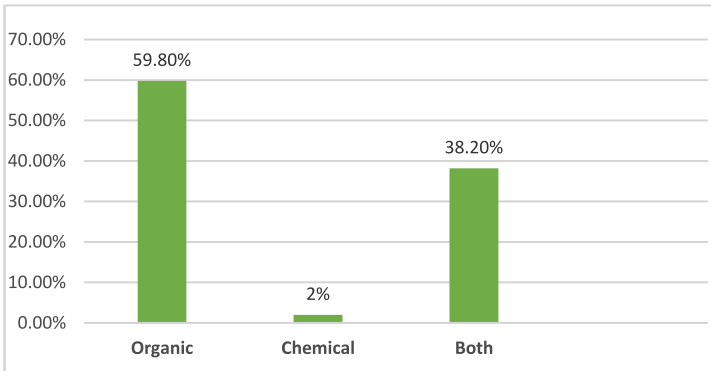


Fig.5: Types of gardening practices

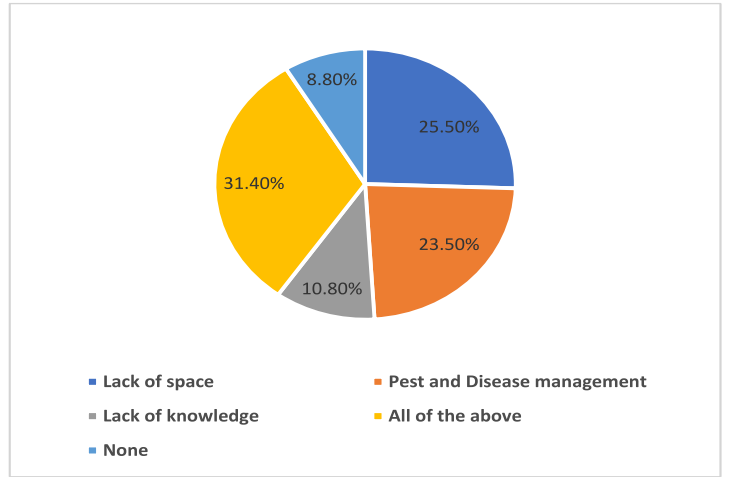


Fig.6: Challenges faced in maintaining home gardens.

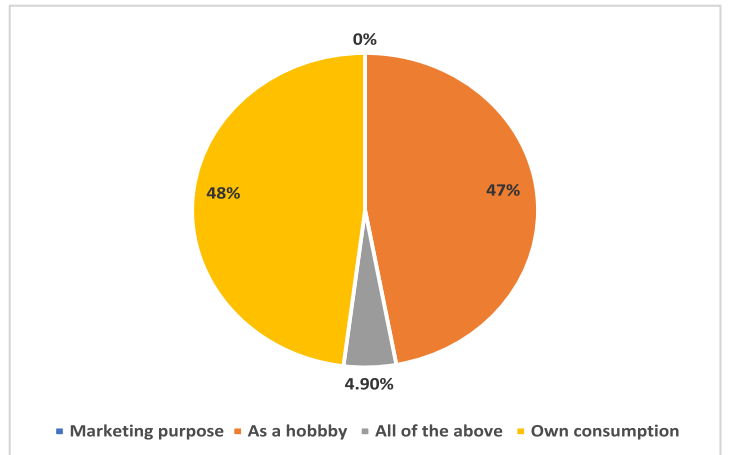


Fig. 7: Purpose of Home gardening

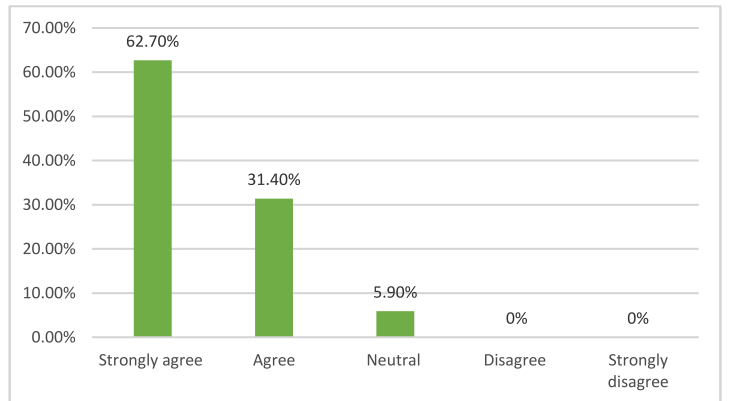


Fig.8: Effect of home gardening on the enhancement of mental and emotional well-being

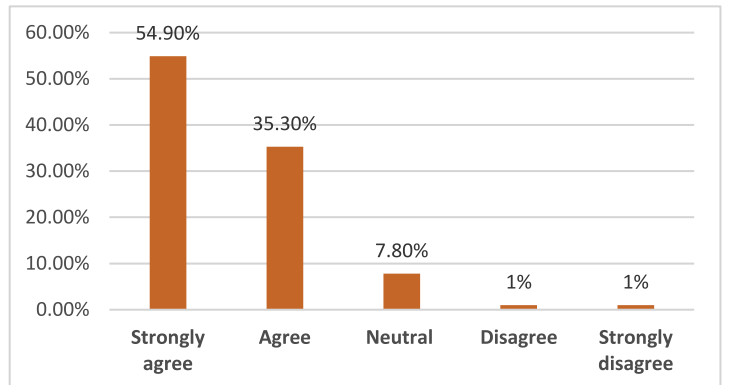


Fig.9: Effect of home gardening as an instructive and sensory-rich tool for children's development

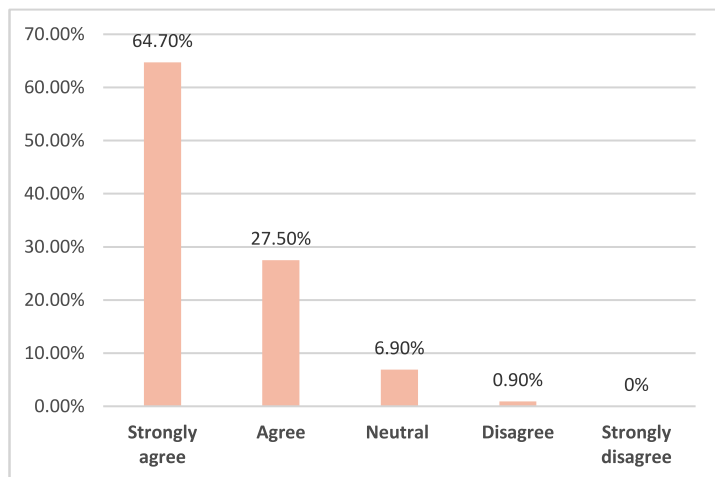


Fig.10: Effect of home gardening on mitigating and alleviating depression and anxiety.

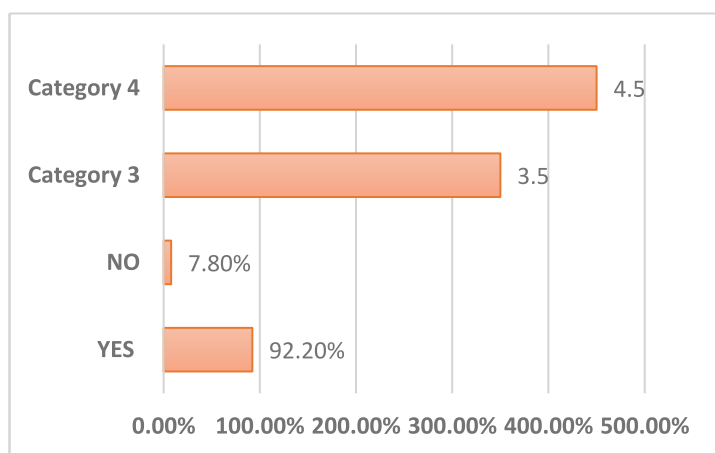


Fig.11: Contribution of home gardening towards emotional and psychological terms in the COVID-19 pandemic

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