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Research Article

Knowledge and Perception on the Usage of Greywater for Backyard Cultivation of Native Herbs Among Residents of Ibadan North Local Government Area, Ibadan, Nigeria

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Abstract

Water scarcity is a growing concern in many metropolitan area, especially in Nigeria. As a result, non-potable uses like irrigation are increasingly depending on alternative water sources. A potential resource for urban gardening is greywater, which is wastewater from domestic tasks like laundry, bathing, and dishwashing. This is especially true when it comes to growing indigenous herbs that have nutritional, therapeutic, and cultural significance. Despite its potential, the acceptance and awareness of greywater reuse for irrigation remains limited. Therefore, this study documents knowledge and perception on the usage of greywater for backyard cultivation of native herbs among residents of Ibadan North Local Government Area, Ibadan, Nigeria. A 3-stage random sample techniques was used in this cross-sectional study to select wards/communities, households and 312 respondents to participate. A pretested, semi-structured questionnaire was used to collect data on respondents' socio-demographic characteristics, knowledge (14-point scale) and perception (12-point Likert's Scale) on the use of greywater for cultivation of local herbs in a backyard garden**.** Data were analyzed using descriptive statistics and chi-square test at α=0.05. Participants' age was 43.7±16.3 years**,** 64.4% were male while 39.7% had completed tertiary education. Several (40.4%) of the participants reported that they had heard about use of herbal medicine to control various ailments. The three major herbs mentioned were lemongrass (65.0%), miracle leaf (51.3%) and basil (32.5%). Only 8% of the participants reported they had used greywater in their compound/residence. The mean knowledge score was 6.4±1.8 and 70.7% had poor knowledge about greywater and its use for cultivating local herbs. About twenty percent (19.9%) affirmed that irrigating garden with greywater could save cost while 25.6% agreed that they do not have the expertise to run a garden with the use of greywater for irrigation**.** The mean perception score was 6.4±1.9 while 61% had the negative perception about greywater and its use for cultivating local herbs. Majority (70.8%) of public servants had negative perception about greywater and its use for cultivating local herbs against the minority – traders, retirees and students. Participants were aware about the use of herbal medicine to control various ailment. However, majority had poor knowledge and negative perception about greywater and its use for cultivating local herbs. Efforts should be made to increase public awareness about greywater and its reuse in order to encourage appropriate management and the adoption of greywater systems for native herbs cultivation.

Keywords

Greywater, Backyard Cultivation, Irrigation, Native Herbs

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1. Introduction

In recent years, the need for sustainable water management practices has become increasingly urgent due to growing concerns about water scarcity and environmental degradation. Greywater presents a promising alternative water source for non-potable purposes. Greywater is considered as relatively clean wastewater generated from domestic activities such as bathing, laundry, and dishwashing [1, 2]. It is a rich source of various compounds such as surfactants, soaps, oils, boron and other salts which can alter the soil and plant characteristics [3, 4]. It is also established that greywater, unlike sewage, has limited microorganism, lower levels of organic matter and on the other hand rich in nutrients hence suitable for agriculture [1]. Greywater contains some nutrients at levels which play a key role in plant morpho-physiology such as photosynthesis, root and shoot growth, and flower and fruit quality [5-9].

However, greywater reuse has been an old practice, and is still being done in areas stressed by water. If given the necessary attention, this practice can help to reduce the over-reliance on freshwater resources and reduce the pollution caused by the discharge of untreated greywater into freshwater. Recycled greywater may be used for various water demanding activities including non-potable uses such as toilet flushing and farming [10]. The major concerns regarding greywater reuse were issues with opinions of public health and inappropriate reuse option technology [11]. A recent evaluation of reusing greywater in home gardens in water-limited environments shows that greywater can be reused for home gardening when diluted with fresh water [12]. Utilizing greywater for irrigation, particularly for cultivating native herbs in backyard gardens, has gained attention as a potential solution to conserve potable water while promoting sustainable gardening practices.

Native herbs, which are integral to local ecosystems, offer a range of ecological and health benefits, including enhancing biodiversity, supporting pollinators, and providing natural remedies in many traditional practices. The use of traditional medicine throughout the world has increased due to its availability locally, easily accessible, simple to use and assumption to be safe. WHO has recognized herbal medicine for treatment of various communicable and non-communicable chronic diseases [13]. The paradigm shift from conventional drugs to herbal medicine has been suggested to be due to the belief that herbal medicines might have low or no side effects and the fact that users are able to control their choice of medication [14, 15]. World Health Organization has also recognized traditional medicine as "accessible, affordable and culturally acceptable" form of healthcare used and trusted by a lot of people. It therefore stands out as a coping mechanism with the dramatic rise in prevalence of chronic non-communicable diseases (NCDs) amidst the soaring rise in the cost of obtaining healthcare [16]. Awareness on the importance of traditional medicine in different healthcare systems round the globe has spiraled upward. So, the WHO traditional medicine strategy has, of recent, updated the "goals of the strategy for the next decade (2014-2023). One of the goals is to support all the member States in "harnessing the potential contribution of traditional medicine to health, wellness and people centered healthcare. Another goal is to promote the safe and effective use of traditional medicine by regulating, researching and integrating traditional medicine products, practitioners and practice into health system where appropriate [16].

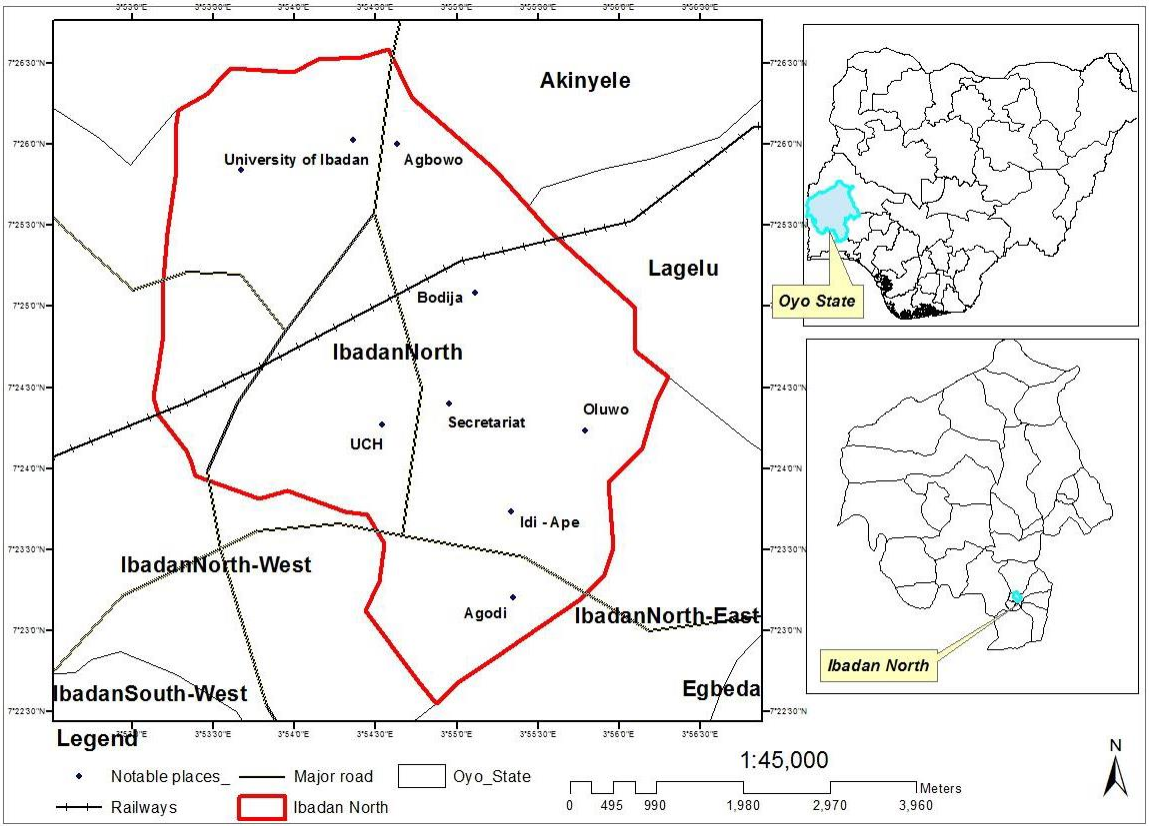
Backyard cultivation of these plants not only contributes to food security and local sustainability but also fosters a deeper connection to regional flora. Nevertheless, most residents in some communities source for herbal medicine in the local markets around while these commodities might be scarce especially in the dry season. In addition, most communities lack adequate facilities for the management of wastewater and, as such, it is disposed inappropriately at various sites which favor the breeding of various pest and arthropod vectors. Moreover, the knowledge and perceptions of individuals regarding the safe and effective use of greywater in backyard cultivation of native herbs play a critical role in determining the success and adoption of such practices. It is essential to understand how communities view the viability, risks, and benefits of using greywater for irrigation in order to promote informed decision-making and encourage environmentally sustainable gardening practices. This study was conducted to document knowledge and perception on the usage of greywater for backyard cultivation of native herbs among residents of Ibadan North Local Government Area, Ibadan, Nigeria.

2. Methodology

2.1. Study Area

The study was carried out in selected communities within Ibadan North Local Government Area of Oyo State (Figure 1). Ibadan North is located between latitude 7 °38'N to 7 °44 ´N, and longitude 3 °88' E and 3 °95 ´E with its headquarters at Agodi Gate. The LGA is bounded by Ibadan North West and North East Local Government Areas, and covers an area of 145.58 km. It is predominantly a home for small-, medium-, and large-scale commercial activities. It is one of the most populated local government areas with an estimate of 306,795 inhabitants. The climate is characterised by dry (November to March) and rainy (April to October) season, with occasional strong winds and storms. Its temperature ranges between 21.42 ℃ and 26.46 ℃, with a relative humidity of 74.55%. The mean annual rainfall is 1420.06 mm, falling in approximately 109 days [17]. The local government area, being close to the inner city and within the metropolis, has the entire characteristics of an urban center. It serves as the center for most commercial organization headquarters, such as banks

and the state secretariat among others. Many educational and research institutions in Nigeria are located within the study site. These include the University of Ibadan, the University College Hospital (UCH), the Polytechnic Ibadan, National Horticultural Research Institute (NIHORT), Federal School of Statistics and the Nigerian Institute of Social and Economic Research (NISER). The major occupational categories of the inhabitant of the local government include: Civil servants, Private entrepreneurs, Professionals, Private sector employees and Traders.



Source: [18]

Figure 1. *Map of Ibadan North Local Government Area.*

2.2. Study Design

This study employed a cross-sectional design obtaining data from the respondents through a semi-structured questionnaire. Consented adults of both genders who had resided for more than a year within the local were interviewed. Another inclusion criterion was the respondent's age which was ascertained to be at least 30 years during the study.

2.3. Sampling Technique and Data Collection Instruments

A 3-stage sampling technique was used to select wards/communities, houses and 312 respondents. A validated semi-structured questionnaire was used to collect data on respondents' socio-demographic characteristics, awareness on the use of local herbs, knowledge and perception about greywater and its use for cultivating local herbs. The knowledge and perception were measured on 14-point and 12-point Likert's scale, respectively. Scores of <7 and <6 were rated as poor knowledge, and positive perception, respectively. The instrument was developed from review of the literature and then pre-tested in a community in Ibadan South West Local Government Area, with similar characteristics as Ibadan North Local Government. Ambiguous and misinterpreted questions identified during the pilot study were modified.

2.4. Data Collection Technique

Prior to data collection, a meeting was held with the executives of landlords' associations in Ibadan North Local Government Area to obtain permission to conduct the study. The attendees at the meeting session comprised the chairmen of communities in the LGA, elders and other stakeholders of the community to explain the purpose and benefits of the research. This is to ensure that community association leaders and

members understood all aspects of the study and could individually take informed consent. Furthermore, the landlord associations' executives encouraged all the community members to participate in the study and explained that the study would not cause any risk to their health. Completed and signed consent forms were retrieved from the landlords' associations' executives and each respondent. Interviews were conducted by five (5) Research Assistants who were acquainted with survey. They were recruited and trained on efficient administration of questionnaire to respondents in a community.

2.5. Data Management

Data collected on each day were checked for completeness, after which they were cleaned, coded and entered into Statistical Package for Social Sciences (SPSS version 21) for analysis. Descriptive statistics was conducted to obtain frequencies, percentage, mean and standard deviation. Chi-square test was used to test for statistical association between socio-demography, and knowledge and perception score category. The level of statistical significance was set at α=0.05.

2.6 Ethical Consideration

Ethical approval was obtained from the UI/UCH Joint Ethical Review Board. Permission was granted by the authorities in charge of the community; informed consent was obtained from the participants before the commencement of the study.

3. Results

3.1. Socio-demographic Information of Participants

Socio-demographic information of the study participants is presented on Table 1. Participants' age was 43.7±16.3 years**,** 64.4% were male, 76.3% were married while 39.7% had completed tertiary education. More than one-third (37.8%) of the participants engaged in trading while 33.3% had stayed in the community for less than 5 years.

Table 1. *Socio-demographic characteristics.*

Characteristics	Frequency	Percentage
Age Category		
Below 30 years	61	21.6
30 – 39 years	71	23.9
40 – 49 years	72	22.4
50 – 59 years	49	14.2
60 years and above	59	18.9
Mean Age= 43.7±16.3 years		
Gender		
Male	201	64.4
Female	111	35.6
Marital status		
Single	49	15.7
Married	238	76.3
Divorced	6	1.9
Widowed	19	6.1
Highest level of education		
None	23	7.4
Primary	48	15.4
Secondary	117	37.5
Tertiary	124	39.7
Occupation		
Student	22	7.1
Unemployed	15	4.8
Self-employed	72	23.1
Civil/Public servant	65	20.8
Trading	119	37.8
Retired	19	6.1
Years stayed in the community		
Below 5 years	104	33.3
5 – 10 years	79	25.3
11 – 15 years	32	10.3
16 – 20 years	27	8.7
20+ years	70	22.4

3.2. Pattern of Local Herb Use

Several (40.4%) of the participants reported they had heard about use of herbal medicine to control various ailment while 54.2% said they thought people used local herbs for the management of some ailments. Some reasons for the use of local herbs mentioned by the participants were effectiveness (13.1%), ready availability 12.3%) and cheapness (10.3%) as shown in Table 2. Some of the participants mentioned various types of herbs they knew people had used for various purposes (Figure 2). The three major herbs mentioned were lemongrass (65.0%), miracle leaf (51.3%) and basil (32.5%). Others were

Aloe Vera (32%), spring onion (27.5%), bitter leaf (24.5%) and wild lettuce (21.5%).

Table 2. *Awareness of local herb use.*

Statements	Frequency	Percentage
Heard about the use of herbal medicine to control various ailment		
Yes	126	40.4
No	186	59.6
Thought about the use of local herbs for management of some ailments		
Yes	169	54.2
No	143	45.8
Reason for the use local herbs		
They are effective	41	13.1
They are readily available	40	12.8
They are cheap	32	10.3

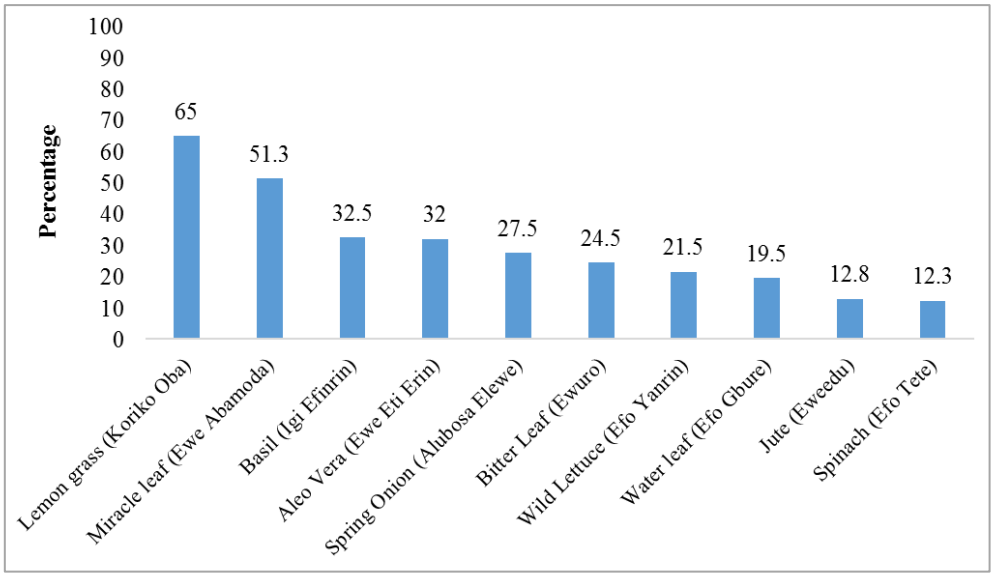


Figure 2. *Common local herbs used for various purposes.*

3.3. Knowledge on Greywater and Its Use for Cultivating Local Herbs

The results (Table 3) from the study indicate that 51.6% claimed they knew the greywater is untreated water from bathroom sink, shower area, kitchen sink and washing machine. Only 8% of the participants reported they had used greywater in their compound/residence while the reported sources of greywater used by the participants were washing and laundry (52.6%), bathroom (77.6%) and kitchen (42.0%). Three major areas where greywater can be used mentioned by the participants were potted plant (17.0%), vegetable/herb garden (16.3%) and on compost (9. 6%). The mean knowledge score was 6.4±1.8 while 70.7% had poor knowledge about greywater and its use for cultivating local herbs as depicted in Figure 2.

Table 3. *Knowledge on greywater and its use for cultivating local herbs.*

Statements	Frequency	Percentage
Greywater is untreated water from bathroom sink, shower area, kitchen sink and washing machine		
Yes	161	51.6
No	151	48.4
Ever used greywater in this compound/residence		
Yes	26	8.3
No	286	91.7
Source of greywater used		
Washing and laundry	164	52.6
Bathroom	242	77.6
Kitchen	131	42.0
Areas where greywater can be used		
Potted plants	53	17.0
Vegetable/herb garden	51	16.3
Bare dirts	17	5.4
Compost	30	9.6
Fruits and nuts	18	5.8
Shrubs and flower	8	6.0
Lawn	10	3.2
Shade	8	2.6
Greywater is a potential renewable resource for water conservation and plant growth		
Yes	44	14.1
No	268	85.9

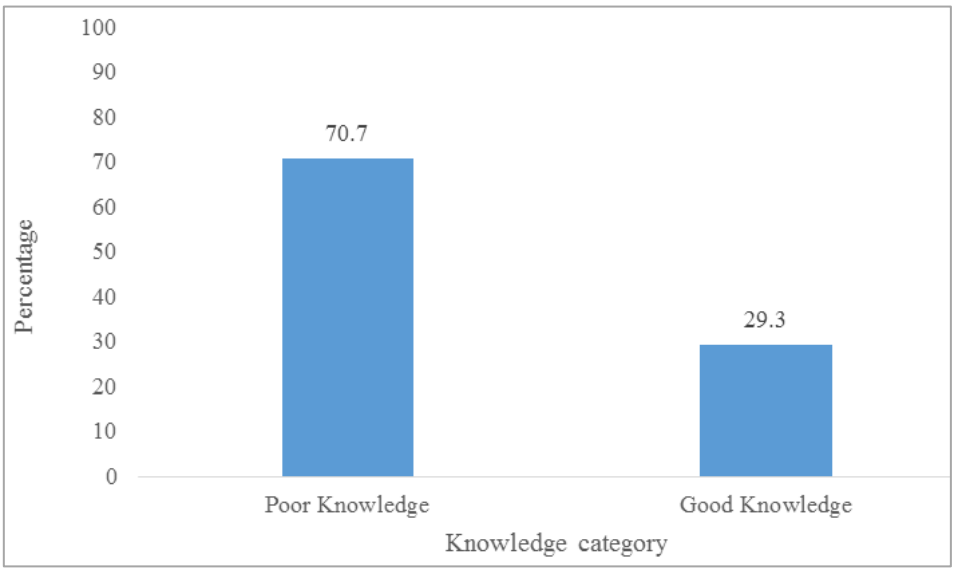


Figure 3. *Category of Knowledge about greywater and its use for cultivating local herbs.*

3.4. Perception on Greywater and Its Use for Cultivating Local Herbs

Table 4 presents perception on greywater and its use for cultivating local herbs. About twenty-three percent (23.1%) of the participants agreed that they use greywater because it is readily available, 34% disagreed that they can irrigate the herbs they need at backyard while 34.9% disagreed that they can get constant supply of herbs with their backyard garden. About twenty percent (19.9%) affirmed that irrigating garden with greywater could save cost, 26% disagreed that greywater works well for irrigation just as other sources of water while 20.5% agreed that they cannot have a backyard garden because it is difficult to manage. Only 18.9% agreed that they do not want a backyard garden because it could lure vectors into the house, 26% agreed that lack of adequate water supply is a hindrance to having their own garden, 26.3% agreed that greywater might affect the nutrient in the herbs while 25.6% agreed that they do not have the expertise to run a garden with the use of greywater for irrigation. The mean perception score was 6.4±1.9 while 61% had the negative perception on greywater and its use for cultivating local herbs (see Figure 4 for detail).

Table 4. *Perception on greywater and its use for cultivating local herbs.*

Perception and belief statements	SD (%)	D (%)	NAND (%)	A (%)	SA (%)
I use greywater because it is readily available	52 (16.7)	90 (28.8)	75 (24.0)	72 (23.1)	23 (7.4)
I can irrigate the herbs I need at my backyard	23 (7.4)	106 (34)	110(35.3)	45 (14.4)	28 (9.0)
With my garden at my backyard, I can get my constant supply of herbs	26 (8.3)	109 (34.9)	123(39.4)	38 (12.2)	16 (5.1)
Irrigating my garden with greywater saves me cost	21 (6.7)	87 (27.9)	119 (38.1)	62 (19.9)	23 (7.4)
Greywater works well for irrigation just as other sources of water	53 (17.0)	81 (26.0)	86 (27.6)	61 (19.6)	31 (9.9)
I cannot have a backyard garden because it is difficult to manage	25 (8.0)	68 (21.8)	127 (40.7)	64 (20.5)	28 (9.0)
I do not want a backyard garden because it could lure vectors into the house	23 (7.4)	71 (22.8)	130 (41.7)	59 (18.9)	29 (9.3)
Lack of adequate water supply is a hindrance to having my own garden	22 (7.1)	70 (22.4)	111 (35.6)	81 (26.0)	28 (9.0)
Grey water might affect the nutrient in the herbs	20 (6.4)	61 (19.6)	116 (37.2)	82 (26.3)	33 (10.6)
I do not have the expertise to run a garden with the use of greywater for irrigation	22 (7.1)	58 (18.6)	123 (39.4)	80 (25.6)	29 (9.3)

Note: SD=Strongly Disagree, D=Disagree, N=Neither Agree Nor Disagree, A=Agree, SA=Strongly Agree

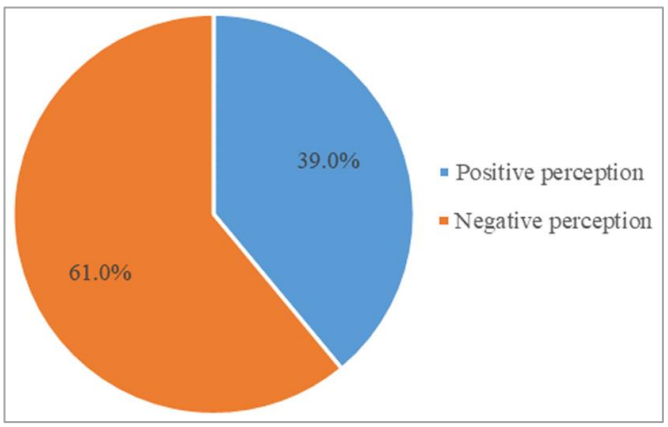


Figure 4. *Perception on greywater and its use for cultivating local herbs.*

3.5. Comparison of Knowledge on Greywater and Its Use for Cultivating Local Herbs with the Socio-Demographic Characteristics

The result of comparison of knowledge on greywater and its use for cultivating local herbs with the socio-demographic characteristics is presented in Table 5. There is no significant association between knowledge category, gender and marital status. Significant association existed between participants' age category, level of education and occupation, and knowledge about greywater and its use for cultivating local herbs.

Table 5. Comparison between socio-demographics and knowledge on greywater and its use for cultivating local herbs.

Characteristics	Knowledge about local herbs		Total %)	R^2	p-value
	Poor (%)	Good (%)			
Gender					
Male	70 (63.3)	41 (36.9)	111 (100)	2.443	0.118
Female	144 (96.6)	57 (28.4)	201 (100)		
Age category					
Below 30 years	42 (68.9)	19 (31.1)	61 (100)	24.486	<0.001
30 – 39 years	50 (70.4)	21 (29.6)	71 (100)		
40 – 49 years	61 (84.7)	11 (15.3)	72 (100)		
50 – 59 years	33 (67.3)	16 (32.7)	49 (100)		
60 – 69 years	10 (35.7)	18 (64.3)	28 (100)		
70+ years	18 (58.1)	13 (41.9)	31 (100)		
Marital status					
Single	29 (59.2)	20 (40.8)	49 (100)	5.295	0.151
Married	167 (70.2)	71 (29.8)	238 (100)		
Widowed	18 (72.0)	7 (28.0)	25 (100)		
Level of education					
None	21 (91.3)	2 (8.7)	23 (100)		
Primary	37 (77.1)	11 (22.9)	48 (100)		
Secondary	95 (81.2)	22 (18.8)	117 (100)	38.400	< 0.001
Tertiary	61 (49.2)	63 (50.8)	124 (100)		
Occupation					
Student	18 (48.6)	19 (51.4)	37 (100)	45.868	< 0.001
Trading	147 (79.5)	38 (20.5)	185 (100)		
Civil/public servant	38 (58.5)	27 (41.5)	65 (100)		
Retired	11 (44.0)	14 (56.0)	25 (100)		

3.6. Comparison Between Perception on Greywater and Its Use for Cultivating Local Herbs with the Socio-demographic Characteristics

The result of comparison between perception on greywater and its use for cultivating local herbs with the socio-demographic characteristics is presented in Table 6. There is no significant association between perception categories: gender, marital status and level of education. Significant association existed between participants' occupation, and category of perception on greywater and its use for cultivating local herbs. Higher proportion (70.8%) of public servants had negative perception about greywater and its use for cultivating local herbs compared to traders, retirees and students.

Table 6. Comparison between socio-demographic characteristics perception on greywater and its use for cultivating local herbs.

Characteristics	Perception on use of greywater		Total (%)	R^2	p-value
	Negative (%)	Positive (%)			
Gender					
Male	68 (61.3)	43 (38.7)	111 (100)	0.194	0.660
Female	118 (58.7)	83 (41.3)	201 (100)		
Age category					
Below 30 years	31 (50.8)	30 (49.2)	61 (100)	5.993	0.307
30 – 39 years	45 (63.4)	26 (36.6)	71 (100)		
40 – 49 years	44 (61.1)	28 (38.9)	72 (100)		
50 – 59 years	33 (67.3)	16 (32.7)	49 (100)		
60 – 69 years	13 (46.4)	15 (53.6)	28 (100)		
70+ years	20 (64.5)	11 (35.5)	31 (100)		
Marital status					
Single	26 (53.1)	23 (46.9)	49 (100)	1.152	0.562
Married	144 (60.5)	94 (39.5)	238 (100)		
Widowed	16 (64.0)	9 (36.0)	25 (100)		
Level of education					
None	14 (60.9)	9 (39.1)	23 (100)	0.876	0.831
Primary	30 (62.5)	18 (37.5)	48 (100)		
Secondary	72 (61.5)	45 (38.5)	117 (100)		
Tertiary	70 (56.5)	54 (43.5)	124 (100)		
Occupation					
Students	13 (35.1)	24 (64.9)	37 (100)	24.015	0.001
Traders	119 (64.3)	66 (35.7)	185 (100)		
Civil servants	46 (70.8)	19 (29.2)	65 (100)		
Retirees	8 (32.0)	17 (68.0)	25 (100)		

4. Discussion

This study has documented the knowledge and perception on the usage of greywater for backyard cultivation of native herbs among residents of Ibadan North Local Government Area, Ibadan, Nigeria. The data revealed that several participants had heard about the use of herbal medicine to control various ailments while more than half said they thought local herbs are used for the management of some ailments. The finding was similar to the result of previous studies about the use of herbal medicine for various ailments [19-22]. Major reasons for the use of local herbs mentioned by the participants were effectiveness, availability and low cost. In this study, participants identified about 10 different local herbs people have been using to combat ailments. The major herbs mentioned were lemongrass, miracle leaf, basil leaf, Aloe Vera, spring onion, bitter leaf and wild lettuce. This finding corroborates Simbo's [23] result that identified several medicinal plants in Babungo, Northwest Region, Cameroon. Similarly, studies in Nigeria have identified several species of medicinal plants that have been used for management of ailments such as malaria, diabetes, piles, cancer, etc. [19, 20, 22].

Experience over the years has shown that identifying community concerns about greywater reuse has an important role to play in implementing any project that involves grey-

water reuse [24]. Very low percentage (8%) of the participants reported they had used greywater in their compound/residence. The low proportion might be as a result of the belief that greywater might contain some contaminants which might cause some health challenges. This is similar to the findings from previous studies where the perceived quality of the treated greywater had been documented as some of the factors that affect the acceptability of treated greywater reuse. The issues raised around the quality revolve around health and safety concerns, presentability and odor control, social and cultural factors, and reuse purpose [25-27]. However, Baghapour *et al.* [24] had reported large proportion (64.8%) of participants in a study used greywater for agricultural irrigation. Similarly, a study had evaluated the use greywater in home gardens in water-limited environments and found that greywater can be reused for home gardening when diluted with fresh water [28]. Three major areas where greywater can be used as mentioned by the participants were potted plant, vegetable/herb garden and on compost. Studies have documented greywater reuse for irrigation as an agelong practice among people [29-31]. High percentage of the participants had poor knowledge about greywater and its use for cultivating local herbs. The public might consider the greywater as "dirty" and may also lack awareness about how to properly treat and filter greywater to ensure it is safe for the cultivation of native herbs. This study found that several participants affirmed that irrigating garden with greywater could save cost. This indicates that the reuse of greywater for irrigation purpose could reduce the need for purchasing fertilizers, as greywater often contains nutrients that can benefit plant growth.

Although water conservation and cost savings from greywater reuse are widely recognized, the specific benefits for gardening—such as nutrient recycling and reduced environmental impact—are less understood [10, 32]. In this study, a quarter of the participants disagreed that greywater works well for irrigation just as other sources of water; about one-fifth affirmed that they cannot have a backyard garden because it is difficult to manage. This is an indication that many people are unaware of the potential benefits of greywater reuse for irrigation purposes. Less percentage of the participants agreed that they do not want a backyard garden because it could lure vectors into the house and might affect the nutrient in the herbs. Greywater is often considered "dirty" water, and concerns about its potential contaminants may deter people from using it. Moreover, people may be concerned about whether the water is safe to use on plants they will later consume. About a quarter of the participants agreed that they do not have the expertise to run a garden with the use of greywater for irrigation**.** Large percentage of the participants had negative perception about greywater and its use for cultivating local herbs**.** Previous studies had reported user's negative perception of reusing greywater resulting from the perceived presence of pathogens and other contaminants [33, 26, 27].

There was no significant association between knowledge category, gender and marital status. Significant association existed between participants' age category, level of education and occupation, and knowledge on greywater and its use for cultivating local herbs. This present finding indicates that individual level of education could increases his/her knowledge about greywater and its use for cultivating local herbs. A significant association had been established between Herbal Use and Perceptions among Patients with Type 2 Diabetes Mellitus in Kuwait [34]. Likewise, no significant association existed between perception category, gender, marital status and level of education. Significant association existed between participants' occupation and category of perception about greywater and its use for cultivating local herbs. A previous study has documented knowledge about greywater reuse, educational level, gender, and age as critical determinants of acceptability for irrigation and other non-potable use [35].

5. Conclusion

This study has identified various herbs used by the residents of Ibadan North Local Government Area in Oyo State, Nigeria, to manage their health issues. It has also documented the areas where greywater can be used to nurture potted plant, vegetable/herb garden and on compost. However, majority of the participants had poor knowledge about greywater and its use for cultivating local herbs. While some participants revealed that they cannot cultivate a backyard garden using greywater because it is difficult to manage. Others perceived that a backyard garden using greywater could lure vectors into the house and might affect the nutrient in the cultivated herbs. Moreover, several participants stated that they do not have the expertise to run a garden with the use of greywater for irrigation**.** High proportion of the participants had negative perception about greywater and its use for cultivating local herbs**.** The study also established that only participants' occupations had a significant association with category of perception about greywater and its use for cultivating local herbs. Backyard cultivation of native herbs using greywater can provide ecological, economic, and social benefits, including water conservation, cost savings, and the promotion of local biodiversity, particularly during the dry season. However, efforts should be made to increase public awareness about greywater and its reuse in order to encourage appropriate management and the adoption of greywater systems for native herb cultivation.

Abbreviations

LGA	Local Government Area
mm	Millimeter
℃	Degree Celcius
E	East

N	North
NCDs	Non-communicable Diseases
NIHORT	National Horticultural Research Institute
NISER	Nigerian Institute of Social and Economic Research
UI/UCH	University of Ibadan/University College Hospital
WHO	World Health Organizaton

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Author Contributions

Adejumo Mumuni is the sole author. The author read and approved the final manuscript.

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Conflicts of Interest

The author declares no conflicts of interest.

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