STRESS MANAGEMENT STRATEGIES AMONG ARABLE CROP WOMEN FARMERS IN AYEDAADE LOCAL GOVERNMENT AREA OF OSUN STATE

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ABSTRACT
Stress is one of the challenges facing the agricultural sustainability of arable crop women farmers in developing nations hence, the need for coping mechanisms that will keep them in the enterprise. This study investigated stress management strategies, socioeconomic characteristics, types of farming activities, sources of stress among arable women farmers in Ayedaade Local Government Area of Osun State, using interview schedule. A three-stage sampling procedure was used to select 120 respondents. Data were analysed with descriptive (percentages, mean and weighted score) and inferential (Chi–square and PPMC) statistics at α0.05. Results show that the mean age and years of farming experience were 41.07 and 19.42 years respectively; with farm size of 1-2 hectares (67.5%). The farming activity mostly engaged in by the respondents was thinning (Weighted Mean (WM) 3.65). Respondents' sources of stress (domain basis) were financial (deciding when to sell -WM 2.0); weather (prolonged adverse weather -WM 2.43); work related (machinery breakdown -WM 2.3); health (long term health problem -WM 2.72); and other people (being under a lot of pressure -WM 2.13). The stress management strategies deployed included financial (prioritizing financial activities -WM 2.71); weather (seeking extension agent support -WM 3.0); work related (relaxation with family and friends -WM 2.56); health (taking balanced diet -WM 3.29); other people (talk about worries with family and friends -WM 2.56). Significant relationship existed between farmers' age (r = -0.582), marital status ($\chi 2$ = -56.50), household size (r = -0.523), farm size (r = -0.221), sources of labour ($\chi 2$=162.92), years of farming experience (r = -0.667) and stress management strategies. The prevailing stress coping strategies should be encouraged to sustain the arable women productivity.
Keywords: Sources of stress, farming activities, sustainable agriculture and stress coping strategies

INTRODUCTION

Stress is one of the challenges militating against the sustainable development of Agriculture in developing countries especially among the arable crop women farmers. Studies have shown that women's role in Agriculture cannot be over emphasised as they have been involved in the production of arable crops across the value chain; which is an indication that women are indispensable in food production circle (Amayo, Akidi, Esuruku, and Kaptui, 2021; Adeniyi and Yekinni, 2020). Added to this agricultural productive role is the reproductive responsibility of women (mother and wife) in their household. In addition, women of all ages (rural women inclusive) have been said to carry out several roles in their immediate communities. The women's traditional responsibility to their household includes being; a chief chef, a dry cleaner, a nurse and emotional care giver, family supporter and home makers among others (Cleveland Clinic, 2020 and World Bank Group, 2017). Furthermore, studies have made it known that arable women farmers are always busy all year round with differs livelihoods especially at the off season; though with the aim of meeting their home's financial engagements for the life essentials like food, clothing and shelter (World Bank Group, 2017). The above-mentioned routines of arable women in rural communities have been a necessity for the upkeep of their households especially for women who happens to be the bread winner. However, to carry out these tasks there is every possibility that women's wellbeing might have been psychologically or physiologically disturbed (Shutske, 2020 and Riti and Sankar, 2020).

Over the past years, the farming community, especially the arable farmers including women has been experiencing a high level of uncertainty, frustration and challenges like high fluctuation in prices of agricultural inputs, high interest rate on loans, breakdown of farm tools and implements, kidnapping, tension or emotional pain, climate change, farm land insecurity, poor marketing information, health dangers, poor flow of agricultural information and financial problems among others (Better health channels, 2019). However, with farming ranking as one of the nation's most stressful activities especially at the subsistence level where most rural women operate; and coupled with lots of daily home making activities/responsibilities they cannot shy away from, stress is inevitable for them (Olowogbon, Yoder, Fakayode, and Falola, 2019). Naturally, women are endowed with the ability to carry out two or more activities at a time (multitasking) which makes many rural women to work round the clock and may fail to take a brief moment to rest during the day. These set of the rural women might be faced with a lot of stress to cope with the tedious and time demanding arable farming and hence might have been over-laboured and might have starved some of the organs and systems of their body (Riti and Sankar, 2020 and Jean and Karbowski, 2020). Hence, these pressures might result into rural women's mental, psychology and emotional stress at a given period. However, the inability of rural

women to meet up with the traditional responsibility expected of them may likely create a feeling of frustration or not being fulfilled in them. These moods might be expressed in form of anger, depression, and nervousness among others. Being in such disposition for a longer period might result into several health challenges like raised blood pressure, changes in the response of immune system, increase rate of heart beat, inactiveness of digestive system and high sugar level among others (Shutske, 2020 and Bishopp, 2020). The continuous manifestation of the above may lead to constant experience of headache, pain in the chest, heart attack, stomach upset, stroke, sleeplessness, suicide among others. Conversely, the sources/causes of rural women's stress might be societal (conflicts), environmental (climate change, bad roads, unfavourable market prices, poor market for farm harvest), workplace and from the home (anger, frustrations) and could be physically (profuse sweating and difficult breathing), emotionally (panic and grief), cognitively (poor decision making and suspiciousness) and behaviorally (restlessness and loss of appetite) manifested (Better Health Channels, 2019).

In Nigeria today, Olowogbon *et al*, (2019) and Jean and Karbowski, (2020) asserts that the unstable economic situations of a nation may lead her citizen to be operating in a tensed environment (stress). Hence a lot of people including rural arable crop women would be looking for means to manage the stress with the motive of adjusting, escaping, avoiding, enduring, reducing or finding a lasting solution to a particular stressor or undesirable events around them. However, for rural arable women to be able put the stressors under control at a given period of time, there must be awareness, acceptance and control of sources or causes of stressor. Hence, this study ascertained the socioeconomic characteristics of the respondents, examined the types of farming activities engaged in by the respondents, sources of stress and respondents' stress management strategies. It was hypothesised that no significant relationship existed between selected socio-economic characteristics of the respondents and stress management strategies used.

METHODOLOGY

The study was conducted in Ayedaade Local Government Area of Osun State. The LGA is notable with large agricultural production of food crops and two major food market (Olufi and Gbongan central market) which engaged about 75.8% of women in the area (Adetunji, 2020). A three stage sampling procedure was employed to select respondents for this study. The first stage involved the simple random selection of two of the three district areas in the Local Government Area. The selected districts were Orile-Owu and Ode-Omu. The second stage involved the simple random selection of three villages from the selected districts. The selected villages in Orile owu district were Abinu Alakinde, Afonle and Aalagbede; while Aba Dorcas, Abewela and Awaye were selected from the Ode-Omu district. The third stage involved the simple random selection of 20 arable crop women Farmers in each of the selected villages, giving a sample size of 120 respondents. Data were collected using interview schedule; and analysed with descriptive (Percentages, weighted mean score and Rank) and inferential (PPMC) statistics at α0.05.

Respondents' socioeconomic characteristics were measured both on nominal (Marital status) and interval level (age, household size, farm size, and years of farming experience) as the case dictates. Ten types of possible farming activities such as thinning, seed treatment and weeding among others were measured using the scale of Never, Rarely, Often and Always with the response options of 0, 1, 2 and 3 respectively. Respondents' five possible domains of sources of stress (Financial stressor (FS), weather (WTHS) stressor, Health stressor (HS), Work related stressor (WKS) and Other People related stressor (OPS)) were measured using the scale of to a large extent, to a lesser extent and Not at all with the response scores of 2, 1 and 0 respectively. The respondents' five possible domains of Stress management strategies (Financial, weather, work related, health and other people) were captured using the response option of Never, Rarely, Often and Always with the score of 0, 1, 2 and 3 respectively

RESULTS AND DISCUSSION

Table 1 shows that 82.3% of the respondents were married with mean age and household size of 41.07 years and 5.73 persons respectively. Also, 65.5% of them do personally source found for their enterprise with mean years of farming experience and farm size been 17.92 years and 2.58 hectares respectively; while 56.7% of the respondents do employed hired labourer for their enterprises. This implies that the respondents were in their active age, living with their husbands and with a moderate family size. The respondents' source of found and mean farm size implies that their production was at subsistence level, though with the use of paid labourers probably with a motive to reduce stress (Adeniyi and Yekinni, 2020).

Table 1: Selected socioeconomic characteristics of the respondents

Years	Frequency	Percentage	Mean
Age			
21-30 years	26	21.6	41.07± 9.32years
31-40 years	40	33.4	
41-50 years	42	34.9	
50 years and above	12	10.1	
Marital Status			
Married	99	82.5	
Single	10	8.3	
Separated	5	4.2	
Widowed	6	5	
Household size			
1-4	33	27.5	5.73 persons
5-8	72	60.0	
9 and above	15	12.5	
Years of farming experience			17.92±11.90
1-10 years	46	38.3	
11-20 years	27	22.4	
21-30 years	19	15.8	
Above 30	28	23.1	
Farm size (Hectares)			2.58 hectares
≤ 2	92	76.7	
3-4	13	10.9	
≥4	15	12.5	
Source of Labour			
Hired	68	56.7	
Family	30	25.0	
Self	22	18.3	
Source of credit			
Personal savings	78	65.0	
Cooperative society	29	24.2	
Bank loan	7	5.8	
Friends or family relations	6	5.0	
Total	**120**	**100.0**	

Source: Field Survey, 2019

Farming activities engaged in by the Respondents

Table 2 shows that the farming activity mostly engaged in by the respondents was thinning (WM=3.65) followed by application of pesticide (WM=2.53) while land clearing activity ranked last (WM=1.56). This implies that the most activity carried out by arable women was thinning as it was not stressful when compared with the land clearing exercise that was the least activity carried out by the respondents. This further indicates that the respondents were not stressed as per the farming activities they mostly carried out. This corroborates the assertion of Mkpado and Omowole (2020) that arable women do not always participate in the stressful farming activities.

Table 2: Farming activities engaged in by the respondents

Farming operation	WM	Rank
Thinning	3.65	1st
Pesticides application	2.53	2nd
Fertilizer Application	2.36	3rd
Seed treatment	2.33	4th
Storage	2.31	5th
Ridging	2.16	6th
Processing	2.11	7th
Weed Control	1.95	8th
Harvesting	1.63	9th
Land clearing	1.56	10th

Source: Field Survey, 2019

Sources of stress to the respondents

Result in Table 3 shows that the most FS source for the respondents was the ability to take decision on when to sell their farm produce (WM=2.00) while poor sale/low commodity price (WM=1.43) was the least. This implies that respondents' sales of arable produce at the right time is germane to their enterprise which might ease the stress of poor or low arable crop prices. The result of this study corroborates the findings of Adeniyi and Yekinni, (2020) that the decision-making abilities of rural women even on the issues that is personal to them is low hence, was a major stress to the respondents. The result in Table 3 further shows that the most common WTHS experienced by the respondents was prolonged bad weather that led to delay in carrying out farm operations for the arable crops especially harvesting (WM=2.43), followed by this was reduction in yield which might be because of the prolonged bad weather (WM=2.15) while the least in this domain was pest infestation (WM=1.57). This implies that climate change was a germane stressor to arable crop farmers as the food crops grown depends on sustainable weather for uptimum productivity, since decline in agricultural output brings discouragement to farmers in many countries including Nigeria (Olowogbon, et al 2019). This was in line with the position of United Nation (2019) that female farmers do suffer crop failure which brings about stress, leads to food and livelihood insecurity as adverse effect of bad weather.

In addition, Table 3 shows that breaking down of farm machinery at the critical period of need (WM=2.3) was ranked first among the work-related stress encountered by the respondents. Followed by this was keeping up with the new technology (WM=2.01) while the least work-related stressor was the respondents' long working hours (WM=1.0). This implies that farm mechanization of the arable women could be enhanced if the farm machinery is put in place in the study area and this will reduce their stress (Mkpado and Omowole, 2020 and United Nation, 2019). On health source of stress as revealed in Table 3, long term health problems was ranked first (WM=2.72), followed by insufficient access to health facilities (WM=2.14) while personal illness during major farm operation (WM=1.56) was the least ranked health stressor. This implies that health wellbeing of arable crop women farmers need adequate attention for continued productivity as health has been said to be wealth; and stress do result into health challenges among the farmers (Shutske,2020 and Riti and Sankar, 2020). Table 3 further shows that the most prominent source of stress experienced because of other people was being under pressure (WM=2.13); next to this was difficulty in being friendly with nuclear and extended family (WM=2.0) while poor housing condition (WM=1.40) was the least ranked in the domain. This implies that people around arable farmers are important to them in their day-to-day activities as they could be a contributory factor to their stress (Olowogbon *et al*, 2019).

Table 3: Distribution of respondents' sources of stress

Sources of stress	WM	Rank
A. Financial Stressor		
Deciding when to sell produce	2.00	1st
Meeting obligations and daily necessities	1.85	2nd
Difficulties in obtaining credit facilities	1.71	3rd
Rising expenses on input	1.70	4th
Insufficient regular cash flow	1.43	5th
Poor sale/low commodity price	1.41	6th
B. Weather Stressor		
Delay in farm operation such as harvesting	2.43	1st
Reduced yield	2.15	2nd
Seasonal outbreak of disease	2.0	3rd

Sources of stress	WM	Rank
Pest infestation	1.57	4th
C. Work related		
Machinery breakdown at critical point of need	2.3	1st
Keeping up with new technology	2.01	2nd
Scarcity of Input	1.86	3rd
Travelling long distances to farm and market	1.72	4th
Insufficient farm help when needed	1.57	5th
Long work hours	1.0	6th
D. Health		
Long term health problems	2.72	1st
Insufficient access to health services	2.14	2nd
Loss of energy and constant tiredness	2.12	3rd
Loss of appetite	1.87	4th
Farm accident and injuries	1.86	5th
Decision making on health Problems	1.72	6th
Personal illness during major farm operation	1.56	7th
E. Other people related		
Being under a lot of pressure	2.13	1st
Difficulty in being friendly with nuclear and extended families	2.00	2nd
Angry and Hostility towards friends	1.72	3rd
Conflict with spouse over spending priorities	1.43	4th
Poor housing conditions	1.40	5th

Source: Field Survey, 2019

Stress management strategies employed

Table 4 shows that on the financial stressor domain, prioritizing financial obligations (WM=2.17) ranked 1st with getting farm inputs on credit (WM=2.15) ranked 2nd while borrowing money for farm work (WM=0.72) was the least coping strategy used by the respondents. This implies that respondents do deduce means of coping with financial stress militating the success of their enterprise especially ploughing back their profit as indicated in Table 1. The weather stress management strategies employed by the respondents as revealed in Table 4 was seeking extension agent support (WM=3.00), followed by this was planting of cover crops to improve the fertility of the soil (WM=2.58) while the least strategy embarked on was to plant early maturing crops (WM=1.72). This implies that the extension agents do render timely services to the respondents and has been a way out of the weather-related stress encountered (Olowogbon *et al*, 2019). Table 4 further reveals the coping strategies embarked upon by the respondents on the health stressor. Listening to health talk on Radio (WM=3.29) ranked first, which was followed by eating of balanced meal (WM=2.72) while having access to sufficient sleep (WM=1.71) was the least health coping strategies used. This implies that the respondents did not take negligence of their health domain and that ICTs has been found so relevant in providing information that aid the respondents to be resilience against the health challenges they encountered. The first respondents' health coping strategy measure taken corroborates the assertion of Adeniyi and Yekinni, 2020 that the most accessible and utilised ICTs for information by the rural women is Radio. On stress encountered on the 'other people' that surrounds the respondents, the most effective strategy employed as shown in Table 4 was to talk out their worries with their families and friends (WM=2.56) while the second strategy put in place was to get off the farming activities in order to relaxed with families and friends (WM=2.14); with the least strategies employed been possessing the positive mind of better tomorrow (WM=1.43). This suggests that the respondents coping strategies of talking to someone was the principle of problem half shared is half solved for them to be relieved with stress associated with other people; they also have the mind of brighter future which has been a motivating factor for the respondents, however, the respondents needs to be encouraged to put up the habit of having enough sleep for sound health and mind rather than making it the least coping mechanism (Jean and Karbowski, 2020; Shutske, 2020; Cleveland clinic, 2020 and Better Health Channels, 2019).

Table 4: Stress Management Strategies employed by the Respondents

Stressor Management	Weighted Mean	Rank
A. Financial		
Prioritizing financial obligations	2.71	1st
Getting input on credit	2.15	2nd
Living within one's resources all the time	2.0	3rd
Selling crop before maturity	1.5	4th
Practice mixed cropping	1.56	5th
Selling produce on stand	1.57	6th
Get support from network of caring people	1.43	7th
Borrowing of money for farm work	0.72	8th
B. Weather		
Seeking extension agents support	3.00	1st
Planting of cover crop to support soil	2.58	2nd
Seeking social support from NGO	2.29	3rd
Early planting	1.85	4th
Listen to news for weather forecast	1.86	5th
Planting early maturing crop	1.72	6th
C. Work Related		
Spending time with family and friends	2.56	1st
Deliberately avoiding stressful situations	2.42	2nd
Take time for relaxation each day	2.28	3rd
Getting commercial vehicle to transport produce	2.24	4th
Seek support and advice from friend and co-worker	2.13	5th
Use of hired labourers	1.85	6th
D. Health		
Listening to health talk on Radio	3.29	1st
Eating balance diet	2.72	2nd
Attend health educational programs	2.57	3rd
Seeking medical support	2.42	4th
Choose a diet low in fat, saturated fat and cholesterol	2.35	5th
Report any symptoms of ill health to health professionals	2.28	6th
Get sufficient sleep	1.71	7th
E. Other People as stressor		
Talking out worries with families and friends	2.56	1st
Taking timeout of the farm work to be with families and friends	2.14	2nd
Seeking support from spouse	1.99	3rd
Attending educational program	2.58	3rd
Being religious	1.99	4th
Associating socially with colleagues	1.89	5th
Seeking support and advice from friends	1.70	6th
Seeking support and advice from community members	1.68	7th
Self-Control	1.57	8th
Positive mind towards the future	1.43	9th

Source: Field Survey 2019

Relationship between selected socioeconomic characteristics of the respondents and the stress management strategies

The result in Table 5 reveals that respondents' age (r = -0.582), household size (r = -0.523), marital status ($\chi 2$=-56.50) and year of farming experience (r= -0.667) had an inverse significant relationship with the stress management practices used by the respondents. This implies that the respondents' ability to cope and manage the stress encountered on daily basis is proportional to the respondents' age, smaller household size, and lower farming experience. This might be due to the higher youth's energy, understanding and skill to cope with stress than the elderly ones (Better Health Channels, 2019). Also, the result as well depicts that the lesser the household size, the lower the level of attention needed from a woman as a mother and wife in such home; as the married woman has a lot of activities to carry out as a wife, mother and in her livelihood, hence needs a lots of coping strategies against stress. That is, the non-married arable crop farmers have a better technique of coping with stress than the married (World Bank Group, 2017). However, there is no significant relationship between respondents' source of labour ($\chi 2$= 162.92)

and the stress management strategies. This implies that sources of labour used by the respondents do not pose any stress to them (easily available) and hence needs no copping mechanism. That is, the stress management strategies were independent of the source of labour. However, the study established (Table 1) that the respondents mostly used hired labour for their farming activities.

Table 5: Relationship between selected socioeconomic characteristics of the respondents and stress management strategies used

Variables	r-value	
Age	-0.58*	
Years of farming experience	-0.67*	
Household size	-0.52*	
Farm size	-0.22*	
Variables	**χ2 value**	**Df**
Marital status	-56.50*	1
Source of labour	162.92	2

*** Significant at P≤0.05)**
Source: Field survey, (2019)

CONCLUSION

The study concluded that women arable farmers have various stressors and do adjust and adapt to them with different coping mechanisms. The study further found out that some of the factors affecting the rate of stress experienced by the respondents were age, marital status, years of farming experience, number of persons in their household and the area of land cultivated. Hence, the study recommends that Women farmers should take brief time to rest during the day in order to avoid over working. Also, government and non-governmental organizations should endeavor to organize public enlightenment for young women in the rural communities for enhanced mental health through seminars, conferences, workshops and adequate communication system on the stress management strategies. However, the prevailing stress coping strategies employed by the respondents should be encouraged to sustain the arable women productivity.

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