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Original Article

Perception of the pest status of the oriental latrine fly (*Chrysomya megacephala*) and its control methods in Ogbomoso Agricultural Zone, Southwestern Nigeria

Ilesanmi Bayo Olatunji, Samuel Adelani Babarinde, and Adeola Foluke Odewole *

Department of Crop and Environmental Protection, Faculty of Agricultural Sciences, Ladoke Akintola University of Technology, Ogbomoso, Nigeria
* Correspondence: aodewole@lautech.edu.ng

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ABSTRACT

Chrysomya megacephala, known as the oriental latrine fly, thrives in human settlements and poses significant public health risks due to its role in spreading pathogens. This study assessed residents' perceptions of the pest status and control methods of *C. megacephala* in Ogbomoso Agricultural Zone, Nigeria. Two Local Government Areas, Ogbomoso North and Surulere, were purposively selected. Using a snowball technique, 192 respondents were interviewed through a structured questionnaire, gathering data on socio-economic characteristics, awareness, perceptions, control methods, and the pest's significance. Descriptive statistics were used for analysis. Findings showed that 61.5% of respondents were male, suggesting male dominance in livestock rearing and processing, which attracts blowflies. The mean respondent age was 51.7 years. A high level of awareness (82.8%) of *C. megacephala* was observed. Residents perceived the fly as a serious pest; its infestation of wounded animals, reducing their economic value, and its role in transmitting cholera via contaminated meat ranked highest (WMS = 4.3). Other impacts included causing typhoid and animal weight loss (WMS = 4.1). In terms of control, 87.0% preferred chemical methods, 77.0% preferred botanicals, and 34% preferred biological control agents, while 33% preferred physical control. Although *C. megacephala* was viewed as a pollinator (83.3%), a large proportion of the respondents viewed it as a health threat (77.6%) and disease vector (67.7%). Therefore, the study recommends promoting eco-friendly alternatives to chemical control, such as botanical and cultural controls, to enhance human well-being and reduce public health risks connected to *C. megacephala* in Ogbomoso Agricultural Zone, Nigeria.

Keywords: Biological control; Botanical control; Chemical control; Cultural control; Physical control; Pollinator

1. Introduction

Chrysomya megacephala (Fabricius, 1794) (Diptera: Calliphoridae), known as an oriental latrine fly or oriental blue fly, has increasingly drawn attention across various African regions due to its growing status as both a public nuisance and a significant pest species (Guiadem et al., 2023). It can act as a mechanical vector of various medico-veterinary pathogens and may also be involved in cases of myiasis. This blowfly species, originally native to Asia, has successfully established itself in tropical and subtropical climates, mainly due to its synanthropic nature and strong dispersal capabilities (Goddard et al., 2020). It has expanded its geographical range and is now established in many tropical and subtropical regions, including the Afrotropical, Palearctic, Australasian, Neotropical, and Nearctic regions (Okafor et al., 2026). Blowfly is restricted to densely populated urban and suburban areas because of its attraction and multiplication to various human foods, human and livestock feces; and where poor sanitation, open waste sites and decaying organic matter are present (Guiadem et al., 2023; Wells, 1991). It has been reported that its presence is often seen as an indicator of environmental neglect, particularly in areas where waste management systems are underdeveloped. Residents frequently associate the fly with filth and disease transmission in this context, leading to heightened concerns about its role in spreading gastrointestinal pathogens such as *Salmonella* and *Escherichia coli* (Osei et al., 2022) and on deceased human and/or animal bodies in Nigeria (Okafor et al., 2026).

Furthermore, the nuisance caused by *C. megacephala* is not limited to public health fears alone. In food markets and abattoirs, where hygiene standards are critical, these flies are perceived as a direct threat to food safety and economic viability (Osei et al., 2022). Their aggressive swarming behavior and tendency to land on exposed food items intensify their negative image among the public and stakeholders in food-related enterprises. Given these factors, the perception of *C. megacephala* as a pest in all parts of the world is shaped by health risks, aesthetic discomfort, and economic implications. Understanding residents' perception of the status of this

pest is vital for developing integrated control strategies that address biological threats and respond to societal concerns.

Despite the availability of multiple control options like chemical, biological, physical, cultural, and botanical control, a significant gap remains in scientific recommendations and public practices or acceptance. Among these control methods, chemical control using insecticides tends to appeal to farmers due to its rapid action and effectiveness during emergencies. Moreover, growing awareness about pesticide resistance in *C. megacephala* populations is increasing (Javaid et al., 2025). Although chemical insecticides are effective, their uninterrupted and indiscriminate use has led to significant challenges, including pest resistance to insecticides, potential health hazards linked to pesticide poisoning due to the misuse or overuse of these chemicals, and the exorbitant cost of the pesticides (Babarinde et al., 2023; Kumar et al., 2019; Li & Suh, 2019; Odewole et al., 2020; Pimentel, 2010). Given all these problems, several insecticides have been banned or restricted. There is abundant evidence that poor pesticide education leads to extensive misuse in Nigeria (Ojo, 2016; Ugwu et al., 2015). Environmental management strategies such as proper sanitation, waste management, and elimination of breeding sites are widely acknowledged as sustainable and low-cost. However, implementation often falls short due to systemic challenges like inadequate infrastructure, inconsistent waste collection, and lack of community enforcement (Guiadem et al., 2023). While people recognize the importance of keeping the environment clean to reduce fly populations, low governmental support or poor policy enforcement often hinders collective action.

The need to develop safe and affordable control strategies for *C. megacephala's* management becomes a matter of necessity. The choice of natural products as a source of origin for insecticidal formulations employed in pest control could be a strategy for their sustainable use by local communities, contributing to their conservation. Despite the numerous potential benefits practiced for generations, the non-chemical native blowfly management practices have remained largely unexploited, with little local research intervention and resources being devoted. This study aims to investigate the residents' perception of *C. megacephala* in Ogbomoso among the sanitary officers, livestock farmers, crop farmers, artisans, and business owners, as well as the control strategies employed by the respondents.

2. Materials and Methods

2.1. Study Area and Sampling Method

A survey was carried out in Ogbomoso Agricultural Zone, Oyo State, Nigeria. The area belongs to the derived Savannah Agroecological Zone. Ogbomoso Agricultural Zone has five Local Government Areas (LGAs): Ogbomoso South, Ogbomoso North, Orire, Surulere, and Ogo Oluwa LGA (Figure 1). Ogbomoso North LGA and Surulere LGA were sampled for this study. The geographical location of this area lies between latitudes 8°05'N–8°11'N, longitudes 4°12'E–4°19'E. The area is a derived Savannah Agroecological Zone. The study area's population consisted of livestock farmers, crop farmers, butchers, meat sellers, and sanitary officers.

Figure 1. Map of Oyo State, showing Ogbomoso Agricultural Zone, Southwestern Nigeria.

2.2. Sampling Procedure and Sample Size

This study used a multistage sampling procedure to select the respondents. For the first stage, a purposive sampling technique was used to select Ogbomoso North and Surulere LGAs due to the presence of major abattoirs, which are a significant point of reference for this study. The second stage involved using the snowball technique to select respondents for this study. At that stage, the snowball technique (Onifade et al., 2022) was used to identify key individuals with influence within their specific professional circles. Sanitary officers, livestock farmers, crop farmers, artisans and business owners who are the professionals connected to *C. megacephala* were linked. A total of one hundred and ninety-two (192) comprising one hundred and twenty-eight (128) and sixty-four (64) respondents from Ogbomoso North and Surulere LGAs, respectively was used for this research work. The disparity in the number of respondents per each LGA was based on the population in each LGA. There were more livestock farmers/butchers in the Ogbomoso North than Surulere LGA. Likert scale was used to measure the respondents' perception of the pest status of the respondents. Data were collected from the respondents through a well-structured questionnaire administered through an interview schedule. The questionnaire was validated by a specialist in the Department of Agricultural Extension and Rural Development, Ladoke Akintola University of Technology, Ogbomoso, Nigeria. Pertinent information was elicited from the respondents based on the stated objectives of this research work.

2.3. Data Analysis

Data were analyzed using descriptive statistics, including frequency, percentage, mean, and weighted mean score (WMS). Respondents' perceptions were measured using a five-point Likert scale consisting of Strongly Agree (5), Agree (4), Undecided (3), Disagree (2), and Strongly Disagree (1). The weighted mean score (WMS) was calculated using formula (1) and subsequently used to rank the respondents' perceptions.

$$\text{Weighted mean score (WMS)} = \frac{\Sigma (w_i \times x_i)}{\Sigma (x_i)} \quad (1)$$

Where w_i represents is the Likert weight assigned to the i^{th} response category, x_i is the frequency of responses in the i^{th} response category, and Σx_i is the total number of responses. All analyses were done using the Statistical Package for Social Sciences (SPSS) Software version 20.0, due to version-specific constraint.

3. Results

3.1. Socio-economic Characteristics of the Respondents

The result revealed that most respondents (61.5%) were male, while 38.5% were female. About 60.9% of the respondents were above 50 years of age. In comparison, 27.6% and 11.5% were between the ages of 31 and 50 and less than or equal to 30 years, respectively. The mean age of the sampled respondents was 51.7 years, indicating that they were still active and in their economically productive years, which could influence their level of knowledge about information about their profession (Table 1). Furthermore, 64.1% of the respondents were married, 18.8% and 12.5% were separated and single, respectively, while only 2.6% and 2.1% were widows and divorcees. The majority (71.4%) of the respondents were from the Yoruba race, while 19.8% and 8.9% indicated Hausa/Fulani and Igbo as their tribes, respectively. The dominance of the Yoruba tribe among the sampled respondents is due to the location of the study area, which is in the southwestern region of Nigeria. It was revealed that 47.4% and 42.2% of the respondents were Muslims and Christians, respectively, while only 10.4% were Traditional worshippers. Less than 50.0% of the respondents obtained a primary school qualification; 19.3% and 18.8% indicated a secondary school certificate and an Ordinary National Diploma/National Certificate of Education qualification, respectively, while 14.6% indicated Higher National Diploma/Bachelor's degree qualification. Also, 42.2% of the respondents indicated that they are business owners who sell meat daily; 22.4% and 15.6% are livestock and crop farmers, respectively, while 10.4% and 9.4% were artisans and civil servants. This result indicates that the sampled respondents are from diverse fields with different perceptions about blowflies. Above 60.0% of the respondents indicated that they have garnered 11-20 years of experience in their chosen career, while 22.9% and 15.1% indicated less than or equal to 10 years and above 20 years of experience in their chosen career. The mean years of experience recorded from the sampled respondents is 16.6 years (Table 1).

3.2. Respondents' Awareness of *Chrysomya megacephala* in the Study Area

The majority (82.8%) of the respondents indicated they had heard about *C. megacephala*. This result indicates that the sampled respondents are familiar with *C. megacephala*. It was further revealed that 48.4% learned about *C. megacephala* at their residential places. In comparison, 33.3% and 25.0% indicated the premises of fruit trees and the place of work as common habitats of *C. megacephala*. The majority (72.4%) of the residents indicated that they know *C. megacephala* as a pest, suggesting their awareness of the adverse effects of the insect. On the years of experience garnered by the respondents, 14.1% of the livestock farmers indicated above 15 years, while 4.7% indicated less than or equal to 15 years of experience from rearing animals. Also, 35.4% indicated above 16 years of experience in selling meat, while 6.8% indicated less than or equal to 16 years of experience in selling meat. At least 6.7% and 6.3% of the respondents indicated less than or equal to 10 years and above 10 years of experience in the civil services, respectively. Generally, this result implies that the respondents are aware of *C. megacephala*. This is expected to influence their perception of blowflies and their environmental effects (Table 2).

Table 1. Distribution of respondents according to socio-economic characteristics.

Socio-economic characteristics	Frequency (respondent)	Percentage (%)
Sex:		
Male	118	61.5
Female	74	38.5
Age (years):		
≤ 30	22	11.5
31–50	53	27.6
> 50	117	60.9
Marital status:		
Single	24	12.5
Divorced	4	2.1
Widow	5	2.6
Separated	36	18.8
Married	123	64.1
Tribe:		
Yoruba	137	71.4
Hausa/Fulani	38	19.8
Igbo	17	8.9
Religion:		
Christian	91	47.4
Muslim	81	42.2
Traditional	20	10.4
Educational qualification:		
Primary	91	47.4
Secondary	37	19.3
OND/NCE	36	18.7
HND/B.Sc.	28	14.6
Occupation of respondents:		
Civil service	18	9.4
Livestock farming	43	22.4
Crop production	30	15.6
Artisan	20	10.4
Business	81	42.2
Years of experience in major occupation:		
≤ 10	44	22.9
11–20	119	61.9
> 20	29	15.1

3.3. Effect of *Chrysomya megacephala* on Animals in the Study Area

The result in Table 3 reveals the respondents' perceptions on the effect of *C. megacephala* on animals and meat. This was measured on a 5-Point-Likert scale of Strongly Agree, Agree, Undecided, Disagree, and Strongly Disagree. The result reveals that the attack of *C. megacephala* on wounded animals makes it lose market value, and the consumption of meat infected with *C. megacephala* causes cholera in humans, ranked 1st with a Weighted Mean Score (WMS) of 4.3 each. In addition, attack of *C. megacephala*

on animals makes it lose weight, attack of *C. megacephala* on animals causes an outbreak of infection on the farm and consumption of meat infested with *C. megacephala* causes diseases in humans were all ranked 3rd, with each having a weighted mean score of 4.1. This result indicates that the respondents were aware of the adverse effect of the infestation of *C. megacephala* on animals, indicating that they will be sensitive about the hygiene of the environment from which they purchase meat for consumption.

Furthermore, attack of *C. megacephala* on slaughtered animals can result in food poisoning if meat is not well prepared, attack of *C. megacephala* on slaughtered animals reduces the nutritional value of the meat, the sight of *C. megacephala* by customers drive them away from the abattoir and perching of meat by *C. megacephala* on the butcher slab changes the taste of the meat when cooked were all ranked 6th with each having weighted mean score of 4.0. Moreover, attack of *C. megacephala* on slaughtered animals can cause infections in humans, and attack of *C. megacephala* on animals affects other animals in the stock, which were ranked 10th, with each having a WMS of 3.8. Attack of *C. megacephala* on animals affects their reproductive system, and attack of *C. megacephala* on slaughtered animals changes the colour of the meat, which were both ranked 12th with each having a WMS of 3.7, respectively.

Table 2. Distribution of respondents according to their awareness about *Chrysomya megacephala*.

Awareness about *Chrysomya megacephala*	Frequency (respondent)	Percentage (%)
Heard about *C. megacephala* before:		
Yes	159	82.8
No	33	17.2
How did you get to know about *C. megacephala*:		
Place of work around animals	48	25.0
Around fruits	64	33.3
Around residential places	93	48.4
Aware of *C. megacephala* as a pest:		
Yes	139	72.4
No	53	27.6
Years of experience in rearing animals:		
≤ 15	9	4.7
>15	27	14.1
Years of experience in selling meat:		
≤ 16	13	6.8
> 16	68	35.4
Years of experience as a sanitary officer:		
≤ 10	13	6.7
>10	12	6.3

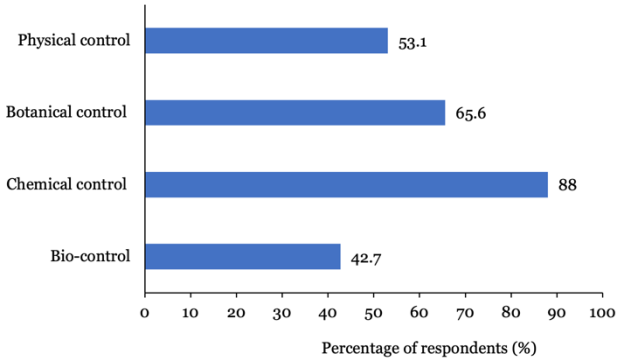

Figure 2. Distribution of respondents according to control methods used on *Chrysomya megacephala*.

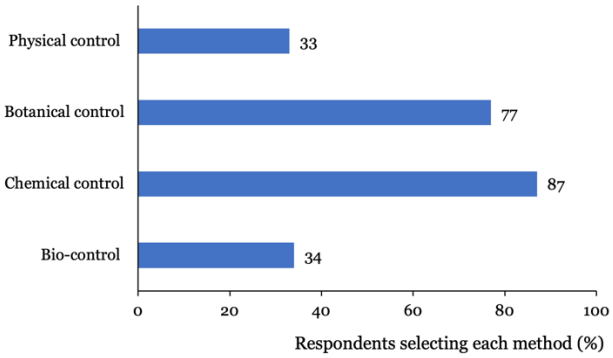

Figure 3. Respondents' preference for control of *Chrysomya megacephala*.

In addition, the attack of *C. megacephala* on animals causes an outbreak of infection in abattoirs. The infection caused by *C. megacephala* is transmissible, both ranked 14th, with a weighted mean score of 3.6. This result is an indication that *C. megacephala* is a contagious pest that spreads its havoc at a quick rate. The attack of *C. megacephala* causes myiasis and the presence of *C. megacephala* in the farm of abattoir is seasonal, where they are ranked least, with each having a weighted mean score (WMS) of 3.4. This result implies that *C. megacephala* is a widely known pest among the respondents (Table 3).

3.4. Control Methods Used on *Chrysomya megacephala* in the Study Area

Almost all (97.9%) of the respondents indicated they know the control methods used on *C. megacephala*. The majority (88.0%) of the respondents indicated that they were aware of the use of chemical control such as DDVP, DD force and Sniper, 65.6% indicated the botanical control (plant materials) above half (50.0%) of the respondents indicated physical control like killing with broom while 42.7% indicated the bio-control which involves the use of other living organisms (Figure 2).

3.5. Preference for the Control Methods Used on *Chrysomya megacephala*

The majority of the respondents in the research areas indicated their preference for the use of chemical control (87%). However, 77% indicated their preference for botanical control (plant materials) and 34% bio-control (using of living organisms), respectively while 33 % indicated their preference for physical control like killing

with broom. This result indicates that sampled respondents utilized the various control methods known to them. The respondents' preference to the control method followed the order chemical method followed by botanical control, biological control and physical control. This indicates that the respondents choose botanical control after chemical control. Although the reason for the choice was not indicated during the administration of the questionnaire, it is possible that botanical control was chosen due to the availability of the various botanicals in the study area (Figure 3).

3.6. Importance of *Chrysomya megacephala* in the Study Area

The sampled respondents indicated the importance of *C. megacephala* to the human populace despite its health/veterinary hazards. The majority (83.3%) of the respondents indicated that *C. megacephala* is a source of pollination for crops like mango, citrus and avocado. In comparison, 77.6% and 75.5% of the respondents indicated that *C. megacephala* is a significant threat to public health and valuable for identifying dead bodies. It was found that 67.7% and 49% of the sampled respondents indicated that it aids the transmission of causal organisms of human diseases and is used for forensic science. Therefore, the respondents knew that *C. megacephala* is of medical concern and aids agricultural production in enhancing food security (Table 4).

In the study area it was revealed that the sampled respondents got information about *C. megacephala* from various sources that range from media channels to physical contact with professionals in the health field. The result reveals that 71.4% and 61.5% of the sampled respondents indicated community awareness through neighbours and public awareness via radio, respectively, as channels for public awareness on *C. megacephala*. Also, 57.8% and 52.1% indicated the sanitary officers' role and educational seminars in schools as channels for public awareness on *C. megacephala*. In comparison, 43.8% indicated extension agents as the channel from which they got awareness of *C. megacephala* as a pest. This result implies that sampled respondents gained awareness on *C. megacephala* from reliable and professional sources, which is expected to influence how they manage the effect of the blowfly attack and the preventive and precautionary steps taken against it (Table 5).

4. Discussion

The study revealed that males dominate the sampled population, where livestock is raised and processed (Alonge et al., 2016; Umar et al., 2023). The number of respondents sampled who were butchers or meat sellers also shows that males dominate this profession. The sampled respondents were mature, young and still in their productive years. As earlier stated by James (2014), both males and females were involved in livestock rearing and processing. Most of the respondents were married, which influenced their alertness about health issues, as they have people to care for in their respective households. Also, almost all of the respondents were literate, which corroborates the findings of Umar et al. (2023). Though the majority had low educational status, this result implies that most of the respondents had an educational background, and this is expected to influence their awareness about the blowfly, control measures and preventive steps to take to avoid the negative effects of the blowfly on human health. In addition, their occupation varies, which can generate different perceptions about blowflies. Moreover, the mean years of experience recorded from the sampled respondents is 16.6 years. This result indicates that the sampled respondents were likely to have adequate awareness about blowflies.

Table 3. Respondents' perceptions of the effects of *Chrysomya megacephala* infestation.

Perceived effects of *Chrysomya megacephala* infestation	Strongly agree, n (%)	Agree, n (%)	Undecided, n (%)	Disagree, n (%)	Strongly disagree, n (%)	WMS	Rank
Loss of economic value	87 (45.3)	83 (43.2)	22 (11.5)	0	0	4.3	1st
Weight loss	56 (29.2)	104 (54.2)	22 (11.5)	10 (5.2)	0	4.1	3rd
Effects on the reproductive system	43 (22.4)	70 (36.5)	65 (33.9)	14 (7.3)	0	3.7	12th
Other animals in the stock (sheep and goat)	31 (16.1)	111 (57.8)	22 (11.5)	28 (14.6)	0	3.8	10th
Infection outbreak on the farm	53 (27.6)	109 (56.8)	28 (14.6)	2 (1.0)	0	4.1	3rd
Infection outbreak in abattoir	23 (12.0)	97 (50.5)	45 (23.4)	27 (14.1)	0	3.6	14th
Changes in meat colour	31 (16.1)	82 (42.7)	66 (34.4)	13 (6.8)	0	3.7	12th
Infections in humans	30 (15.6)	114 (59.4)	33 (17.2)	15 (7.8)	0	3.8	10th
Food poisoning from contaminated meat	53 (27.6)	98 (51.0)	36 (18.8)	5 (2.6)	0	4.0	6th
Consumption of infected meat causes cholera in humans	73 (38.0)	97 (50.5)	22 (11.5)	0	0	4.3	1st
Consumption of infected meat causes typhoid in humans	52 (27.1)	112 (58.3)	22 (11.5)	6 (3.1)	0	4.1	3rd
Reduces the nutritional value of the meat	61 (31.8)	76 (39.6)	41 (21.4)	14 (7.3)	0	4.0	6th
Infections are transmissible to humans	28 (14.6)	94 (49.0)	35 (18.2)	35 (18.2)	0	3.6	14th

n: number of respondents. WMS: weighted mean score

Table 4. Respondents' awareness of the importance of *Chrysomya megacephala*.

Importance of *Chrysomya megacephala*	*Frequency (respondent)	Percentage (%)
Forensic science	94	49.0
Pollination crops like mango, citrus, avocado, etc.	160	83.3
Helpful identification of dead bodies	145	75.5
Significant threat to public health	149	77.6
Transmission of disease-causing organisms	130	67.7

*Multiple responses were allowed.

Table 5. Distribution of respondents by channels of public awareness about *Chrysomya megacephala*.

Source of information	*Frequency (respondent)	Percentage (%)
Radio	118	61.5
Neighbours	137	71.4
Sanitary officers' role	111	57.8
Seminars	100	52.1
Extension agents	84	43.8

*Multiple responses were allowed.

C. megacephala is a widely known pest in the study area. Almost 71% of the respondents knew about the pest through their neighbors and various other sources, such as their place of work, around fruit trees, and residential places (Chaiwong et al., 2014). This result implies that the respondents were aware of the blowfly-induced economic loss and health implications of consuming meat infected by *C. megacephala*. In addition, attack of *C. megacephala* on animals makes it lose weight, causes an outbreak of infection on the farm (Hamed et al., 2013) and consumption of meat infested with *C. megacephala* causes human diseases (Tan et al., 2024) were all ranked 3rd, with each having a weighted mean score of 4.1. This result indicates that the respondents were aware of the adverse effect of the infestation of *C. megacephala* on animals, indicating that they will be sensitive about the hygiene of the environment from which they purchase meat for consumption.

The respondents in the present study indicated that attack of *C. megacephala* on an animal causes an outbreak on the farm, causing disease transmission. This agrees with Carneiro et al. (2014), who reported that beyond direct infestation, *C. megacephala* acts as a vector for various pathogens. Studies have identified that these flies can carry bacteria responsible for diseases like dysentery, cholera, botulism, typhoid fever, brucellosis, polio, smallpox, and tuberculosis. Their ability to transmit such a wide range of pathogens poses a significant risk to animal and human health on farms. Also, research conducted on poultry farms in Minas Gerais, Brazil, highlighted that environmental and management factors increase the risk of *C. megacephala* infestations. Specifically, high humidity levels in manure, inadequate composting of dead poultry, and poor manure management practices were associated with higher infestation rates. Such conditions can facilitate the rapid proliferation of these flies, leading to outbreaks that affect large numbers of animals (Rezende et al., 2019).

Furthermore, the attack of *C. megacephala* on slaughtered animals can result in food poisoning if the meat is not well prepared. Olatubi et al. (2021) examined the microbiological loads on blowflies collected from two towns (Iwo and Oluponna) in Osun State, southwestern Nigeria. They reported that the blowflies collected from an abattoir in Iwo had the highest number of pathogenic bacteria, while Oluponna abattoir blowflies had the highest diversity of bacteria, demonstrating that the increase in blowflies can lead to pathogenic bacteria and cause food poisoning. Respondents also perceived that the attack of *C. megacephala* on slaughtered animals reduces the meat's nutritional value, changes the taste of the meat when cooked, and was ranked 6th, with each having a weighted mean score of 4.0. The flies are known to transmit pathogenic bacteria and facilitate decomposition, which can lead to spoilage and potential health hazards. This agrees with Bari & Yeasmin (2018), who reported that food-borne diseases are a global public health concern. The World Health Organization (WHO) recently estimated that 1 in 10 people fall ill from consuming contaminated food every year, and 420,000 die as a result. More than 250 microbial agents, such as viruses, bacteria, parasites, toxins, helminths, and unconventional agents like prions, are associated with human foodborne diseases.

Also, it was observed that *C. megacephala* adversely affects the sales of the butchers and customers' patronage of the abattoir, an indication of the sensitivity of the populace about the hazard posed by *C. megacephala*. Olatubi et al. (2021) corroborated the perception of respondents in the study area that a high incidence of *Staphylococcus* in the blowflies collected from Iwo abattoir can give rise to enterotoxins as these flies perch on the meat to be sold, contaminating them. These same flies could also perch on food, contaminating them likewise and may not necessarily alter the appearance of the food. It is important to note that such contaminated meat or food may constitute a serious public health hazard, as Hamed et al. (2013) reported.

The perception that *C. megacephala* causes myiasis was ranked 16th by the respondents. This may be because of their limited awareness; *C. megacephala* is a known cause of myiasis in humans and animals. Myiasis is the infestation of live vertebrate animals by fly larvae, which feed on the host's dead or living tissue. In livestock, this condition can lead to significant health issues and economic losses (Radhakrishnan et al., 2012). A study showed that *C. megacephala* is one of the most common myiasis-causing species in tropical regions, with its larvae capable of developing rapidly in warm conditions, such as those found in living animal tissues (Bambaradeniya et al., 2019). In addition, the Food and Agriculture Organization (FAO) notes that *C. megacephala* larvae may become involved in wound myiasis of humans and animals,

particularly in areas where the flies are prevalent (Hall, 1991).

The sampled respondents were aware of control methods used on *C. megacephala*, and the majority (88%) indicated chemical control, followed by the use of botanicals (65%). Permethrin, deltamethrin, and malathion have demonstrated efficacy against *C. megacephala* (Rashid et al., 2008; Sukontason et al., 2005).

However, over-reliance on these chemicals can lead to resistance, pesticide poisoning, side effects to non-target arthropods due to sub-standard techniques of fumigation that ultimately disrupt the beneficial organisms, diverse side effects like human health and ecological hazards, toxicity against non-target and/or beneficial organisms and other effects on the environment. Therefore, it is crucial for pest control specialists, government and non-governmental groups to embark on periodical training on the safe use of chemicals and risks associated with their abuse.

Sakulpanich et al. (2023) reported the potential of Stemona collinsiae root extract for the control of *C. megacephala*. Essential oils cause insecticidal activity on *C. megacephala* larvae (Santos et al., 2023). Encouraging the use of botanicals would reduce broad spectrum toxicity which is common in chemical control and insects involved in pollination will be conserved. Plant-based insecticides were preferred by 77% of the respondents. That was the next option to chemical control. This could be due to the fact that botanicals and other natural products are eco-friendly, easy to produce, do not leave residue, or induce emergence of resistant strain of a pest and less-toxic to natural enemies (Anggriani et al., 2025; Babarinde et al., 2016; Babarinde & Akinyemi, 2024; Odewole et al., 2020). With 83.3% of the respondents who viewed blowfly as crop pollinator, its economic value is ascertained. In the study area, the respondents need more awareness on the importance of botanicals, this will encourage its use and reduces synthetic usage.

5. Conclusion

The people in the study area were aware of *C. megacephala* but had different perceptions of it as a public health pest of concern. The majority of the respondents preferred chemical control to mitigate the risks associated with *C. megacephala*, but due to the multifaceted risks of over-dependence on synthetic chemicals, farm management should implement stringent sanitation practices, and embark on regular monitoring for signs of infestation, and appropriate control measures to protect animal health and prevent potential outbreaks. Sanitary officers should implement stringent hygiene practices, effective waste management, and regular monitoring, which can help mitigate the risks associated with these flies.

Our findings from this study reiterate the need for proper waste management due to residents' beliefs about exposure to diseases transmitted by blowflies through food contamination and health risks posed by blowflies. Also, the public should be educated on the safe use of chemicals and risks associated with their abuse; and potential of botanicals, which are available, affordable and eco-friendly, for the control of blowfly instead of over-reliance on synthetic chemicals.

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