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Review Article

Bad Welfare and Comfort of Dairy Farms

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Abstract

This paper explores the critical issue of poor animal welfare and lack of comfort on modern dairy farms. It examines how substandard housing conditions, improper handling practices, and inadequate management can negatively impact the physical and psychological well-being of dairy cows. The paper highlights the importance of prioritizing cow comfort through improvements to barn design, quality of bedding, and access to necessary resources like feed, water, and space. It emphasizes the need for robust staff training, clear standard operating procedures, and effective government oversight to ensure dairy cows receive appropriate care and are not subjected to unnecessary distress or suffering.

The ultimate goal is to provide evidence-based recommendations that can help the dairy industry enhance the overall welfare and comfort of their animals. Achieving this will not only improve productivity and profitability, but also strengthen public perception and the long-term sustainability of dairy farming practices. Addressing the welfare and comfort deficiencies on dairy farms is a critical step towards more ethical and responsible animal agriculture.

Keywords: Bad welfare; Comfort; Dairy Farms

Introduction

Welfare is a word that determines whether the animal lives well or not and the "balance of positives over negatives" [79], as well as the physical and mental state of the animal and the condition in which it lives, passes away, or dies [31,51]. The issue of animal welfare includes domestic, wild, vertebrate, laboratory, and aquatic animals [26]. Traditionally, a good life has been associated with good health, and expected production is associated with biological functioning like good health, growing, and reproducing normally on the part of the animal (Marina et al., 2017) [11]. Nowadays, growing awareness or attention goes to the concept of "positive animal welfare," which can be taken with the concept of quality of life [78,79]. Welfare is a multidimensional concept. It comprises both physical and mental health and includes several aspects such as physical comfort, absence of hunger and disease, and possibilities to perform interested behaviors [15,29].

The first global standards for animal welfare were introduced in 2005 by the World Organization for Animal Health (OIE). These were accepted by 167 nations in total [60]. The five freedoms were first outlined in England in the 1970s and have since served as the cornerstone of animal welfare policies everywhere else [5]: These five freedoms are: freedom from hunger and thirst; access to fresh water and a diet that will maintain full health and vigor; freedom from discomfort; a suitable environment, including shelter and a comfortable resting area; prevention of pain, injury, or disease; rapid diagnosis and treatment; freedom to express normal behavior; and freedom from slavery. The expansion of the dairy sector poses a potential risk to dairy cow welfare if management practices and infrastructure are not improved to accommodate the continually expanding herd and farm sizes (Axberg, 2016) [41]. In order to optimize or improve cow welfare and comfort and ensure a sustainable dairy sector, it is vital to understand the impact of current on-farm management practices [9]. If an animal is safe, healthy, comfortable, fed properly, free from unpleasant emotions like pain, fear, or discomfort, and able to show behaviors that are necessary for its bodily and mental well-being, then it is said to be in a state of good wellbeing (welfare). Good animal welfare requires disease prevention and appropriate veterinary care, shelter, management, and nutrition, a stimulating and safe environment, humane handling, and humane slaughter or killing [41,61]. Bad welfare problems can be improved by eliminating harmful elements, including hunger, thirst, pain, anxiety, and discomfort, which may aid an animal in surviving and coping with its environment [4]. Animal welfare evaluation is vital for farm animal health and productivity. New standardized biomarkers are needed to gain a complete picture of the ethological, physiological, and psychological needs of animals [27].

Scientific Concepts of Animal Welfare

The idea of welfare has many different aspects. It encompasses both physical and mental health and involves a number of factors, like the ability to engage in motivated behavior, bodily comfort, and the absence of hunger and disease. Various authors claim that animal welfare is a scientific notion that defines a possibly quantifiable characteristic of a living animal at a specific time. The phrase "animal protection" refers to the moral dilemma of how people need to react or handle this situation. Animal welfare research conducted by scientists is distinct from ethical considerations [15,29].

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The British government's 1965 release of the Brambell Report on Farm Animal Welfare marked the beginning of animal welfare as a "formal discipline" [12] (Carenzi & Verga, 2009). This work served as the basis for the five freedoms theory put forth by the British group Farm Animal Welfare Council (FAWC) in 1979. Since then, this idea has been applied as a framework for evaluating animal well-being, notably on industrial farms, and has formed the basis for a number of methods for doing so [4] (Blokhuis et al., 2010).

The first global standards for animal welfare were introduced in 2005 by the World Organization for Animal Health (OIE). These were accepted by 167 nations in total [60]. The five freedoms were established in England in the 1970s and have since served as the cornerstone for animal welfare around the globe [5] (FAWC, 2011). These freedoms are: freedom from hunger and thirst; freedom from discomfort; freedom from pain, injury, or disease; freedom from suffering either intentionally or unintentionally; and freedom to act normally by giving the animal enough room, suitable amenities, and company of its own species, ensuring situations and treatments that prevent mental suffering [42,82] (FAWC, 2013). By removing detrimental factors like hunger, thirst, pain, anxiety, and discomfort that may help an animal survive and cope with its surroundings [4] (Ohl and Staay, 2012), welfare issues can be resolved.

The welfare of an animal at any given time is affected by a variety of variables, such as its genetics (effects of selective breeding), prior experiences (learning and memory), physiological state (health, nutrition and hunger level, reproductive status), and psychological state (affective state/emotions, behavioral motivations, sensory perception) (Mellor et al., 2009). For effective animal welfare, it is necessary to combine the three primary viewpoints (listed below):

1. The biological state: An animal is considered to be in good form and to be in the biological state when it is healthy, growing, and reproducing regularly.

2. The emotional state emphasizes the possibility of animals suffering or having rewarding experiences.

3. The natural state clarifies the distinctions between animals kept in captivity and the wild environment from which they came, as well as the degree to which these animals can exhibit natural behaviors. The ability of an animal to deal with environmental stressors is crucial from the animal's point of view (Eerdenburg et al., 2021; Jerlström, 2013).

Bad Welfare and Comfort of Dairy Farms; Indicators

Cow Hygiene

An indication of the quality of the environment where cattle are housed is how clean or hygienic the cows are. A matted hair coat, insufficient bedding addition, overcrowding, and/or poor stall design are typically indicated by the presence of moist or dried caked manure in the extremities (especially the posterior) and/or flanks. As soon as environmental bacteria enter the teat canal, filthy cows are more likely to experience discomfort-related intramammary infections [56]. Cow cleanliness and somatic cell counts (SCC) were compared in Reneau et al. (2005). Scores for the lower legs' posterior region and udder were combined. Somatic cell numbers increased when the composite score, udder score, and leg score increased. On a scale of 1 to 5, with 1 denoting a fully clean cow and 5 denoting one that was extremely dirty.

Teat Condition

Healthy teats enhance cow preparation and milk release and reduce the occurrence of intramammary infections. These elements influence dairy cattle's involuntary culling and help extend their useful lives. The only piece of machinery on the farm that cows come into direct contact with twice, three times, or even four times a day, depending on the dairy, is the milking machine. Despite this, when evaluating cow comfort, teat lesions brought on by excessive milking or suction changes are rarely considered [14,53].

Cows that kick the milking unit or transfer their weight from one back leg to the other when milking or dancing are indications that there may be issues with the units or that the animal is not enjoying the process. Determining the proportion of the herd with teat lesions should be a dairy's primary goal. The technique to be employed should be straightforward and allow for consistency among people who carry it out. In general, the teat barrel and its tip should be scored individually see figure 1 bellow. Simple terms like "light," "moderate," and "severe" make it simple to remember and characterize different levels of the teat skin's dryness. Similar measurements can be made of the quantity and hardness of keratin in the teat ends [45].

Prolonged Hunger

Malnutrition, undernutrition, or a combination of both can cause hunger. Undernutrition is a result of insufficient supply, whereas malnutrition results from an unbalanced intake of nutrients. Both starvation and undernutrition can induce psychological and physical stress in animals, which, if it lasts for a long enough time or is severe enough, can lead to disability, loss of bodily condition, immunological suppression, illness, and even death. Hunger may also lead to more animal aggression, which is a problem for animal welfare.

The health and well-being of the cow, as well as its productivity, are significantly impacted when its nutritional status is altered. Animals in large systems forage for the majority of their food, and they may have to endure lengthy periods when the food supply is insufficient to meet their nutritional needs. In this situation, animals will become unhealthy and experience constant hunger. Body condition score is a technique for estimating body fat in farm animals to measure their nutritional status [19,46,76].

Grazing cattle in broad production systems may be at risk for undernutrition due to poor pasture conditions. The welfare of the animals may also be impacted by undernutrition due to competition and a shortage of accessible feed (Axberg, 2016) [56]. Poor pasture grass quality and allowance can increase the likelihood that cows will experience metabolic diseases such as negative energy balance, ketosis, and weight loss. Low amount or poor-quality intakes may also cause cows to feel hungry, which has a negative effect on their emotional states [50].

Extremely malnourished animals may have compromised immune systems, and dairy cows with extremely low body condition scores are more likely to have health problems while lactating as a result of inadequate nutrition. When this happens, animals will lose bodily

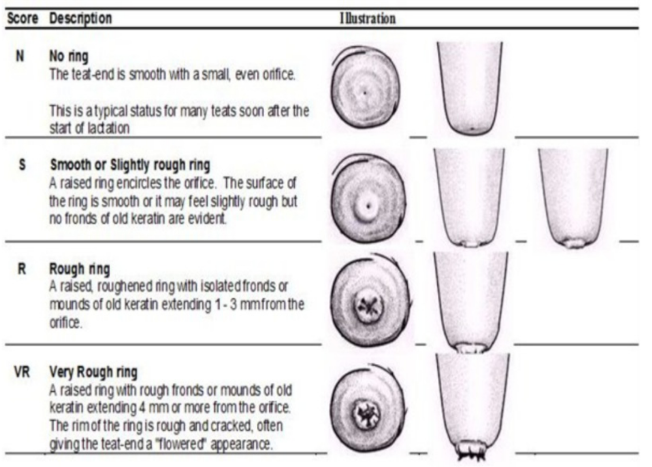

Figure 1: Teat barrel and its tip score.

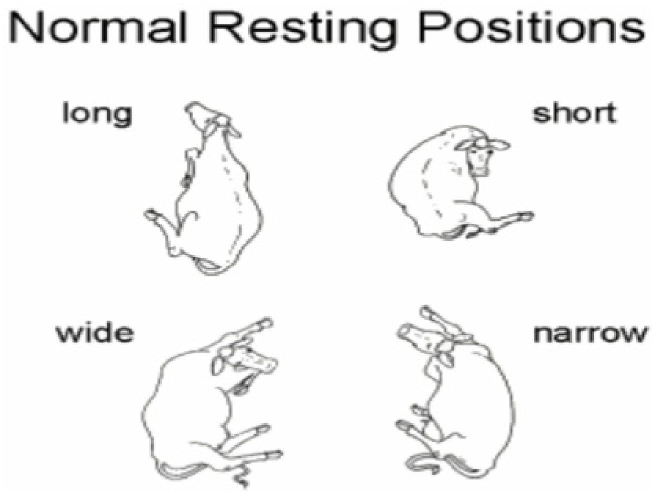

Figure 2: Four normal resting position indicators.

condition and endure prolonged hunger. The effects of food shortages may be exacerbated by high stocking levels, environmental factors including scarce water supplies, and high ambient temperatures. In addition to increasing animal aggression, hunger may also have a negative impact on animal well-being [62,76].

Undernutrition may result from carelessness or inadequate husbandry. When animals are subjected to stressful situations, their ability to feed may be inadequate because fear and stress outweigh the expression of other behavioral states, such as hunger. Farm animals transported over long distances could go hungry as well since some animals turn down food when it is presented to them.

Prolonged Thirst

Water is a very critical nutrient in the diet of lactating animals as it performs several functions, including the transfer of nutrients and the excretion of waste products produced during metabolism, digestion, and body temperature regulation in all living organisms. Other parameters like growth, milk production, reproduction, adaptive potential, and feed consumption are also influenced by the water status of feed and body reserves [35,47].

According to Jensen and Vestergaard (2002), the main factors that affect dairy cow water needs are milk production, feed ration composition, and ambient and water temperatures. The first of the well-known five freedoms outlined by the Farm Animal Welfare Council based on the Brambell Report [12] is freedom from thirst, which is vitally important for animal health and production. The other four freedoms are freedom from hunger, freedom from discomfort, freedom from pain, injury or disease, and freedom to express normal behavior.

In harsh environments, water is frequently one of the scarcest resources. Water intake might differ significantly depending on the surrounding temperature and the amount of feed consumed. For cattle, water requirements in thermoneutral conditions vary from 4 to 8 L per kg of DM intake, and under situations of heat stress, water requirements can easily treble [76]. Milk production and daily water consumption are positively correlated. According to Meyer et al. (2004), there is a positive correlation between lactation number and water intake. This is probably because older cows produce more milk, which leads to increased water intake [20].

Facilities are frequently insufficient when poor-quality drinking water is offered, which can result in extended thirst and poor management (Axberg, 2016). When the forage's water content is low, thirst is increased. Similar to that, forages with high salt content require more water. Therefore, while under heat stress and in low-feeding circumstances, livestock need to drink more water. The quality of the water, water shortages, and sporadic water intake can all have an adverse physiological influence on animal welfare [48]. Algae, microbes, minerals, and manure can all contaminate drinking water. According to Willms et al. (2002) and Jensen and Vestergaard (2002), these contaminants can alter the physical and chemical characteristics of drinking water as well as the way it looks, smells, and tastes. Cows are frequently given unrestricted access to clean water at all times by farmers [64,77]. Long-term thirst raises stress levels and, if it is extreme, can induce dehydration, disability, loss of physical condition, illness, and eventually death. Farm animals transported over long distances may become dehydrated because they may refuse to drink even when provided with water. This could be an indication of drinking inhibition brought on by fear, either from the overall terrifying consequences of loading or transportation. It's also possible that animals wouldn't identify water if it were provided in an unexpected setting.

Comfort Around Resting

Reduced resting time may result from discomfort. This can lead to at least two major welfare problems. First, the risk of lameness or other injuries increases if animals receive inadequate rest; this is particularly important in dairy cattle. Second, animals are often strongly motivated to rest, and preventing them from doing so is likely to cause them physical and psychological distress. Observing the cows in the cubicle house will allow us to determine the animals' condition. By monitoring the barn at various times during the day, one can determine how many cows are resting. Lying time considerably increases with age and is higher in the winter than in the summer. Early in lactation, there is a negative association between milk production and lying time because the cow needs time to adjust after calving [8,73]. Compared to cows housed on pasture, cows confined indoors with cubicles are likely more constrained in their choice of lying posture and orientation (Van der Kooij, 2019). Sand or other soft materials, mats, beds, or sawdust on concrete floors can all be used as bedding inside the cubicles. Cows can wander freely in loose housing systems with cubicles, which is beneficial for their welfare [63], and they can choose which cubicle to rest in. Cows are free to communicate with one another, display social behavior, and avoid other cows if they so choose. Cubicles, which have some drawbacks, are employed in the majority of loose housing systems. The health and well-being of cows can be affected by the bedding material's effect on lying time and comfort [70]. Additionally, cows must be able to move freely about the resting space without interference, damage, or fear. It has been thoroughly determined that total lying time, the number of lying bouts, and the length of each bout are all beneficial welfare metrics [75] (Mattachini et al., 2011). The term "resting" refers to lying down in one of the four traditional resting positions, namely long, short, narrow, or wide see figure 2 bellow. Cows rest in a long position with their heads extended forward. They adopt a slouched posture and tilt their heads to the side. The sternum of a cow with a narrow stance is leaning more, her neck is somewhat cocked, and her hind legs are close to her chest. The position of a cow's back leg is spread out wide as she sleeps more on her side. A cow may also recline laterally on the ground with her head and legs extended [75].

A reduction in resting time as a result of overcrowding is the probable explanation for the reduction in performance associated with space availability. According to Anderson (2008), overcrowding causes an increasing proportion of cows to wait impatiently for access to open space in barns. This impact became more noticeable between midnight and early morning, when the incentive to eat was diminished and the motivation to lie down grew [18]. Reduced lying time has a detrimental effect on a number of important health-related indicators before it has an effect on output. The foot is subjected to greater stress when a cow is made to stand for an extended period on concrete flooring [17]. As the amount of time spent standing increases, a foot that has been softened by manure slurry on the surface will become more susceptible to infection [36].

Thermal Stressors

Jones and Manteca (2004) claim that the concept of a thermoneutral zone can be used to describe how animals interact with their surroundings. This is referred to as the thermal range in which animals are able to regulate their heat inputs and outputs and create a sense of comfort while minimizing stress. Temperatures that are too low or too high lead to cold or heat stress, respectively. The exposure of cows to unfavorable climatic conditions is a potential welfare risk in pasture-based systems [39]. Both pasture-based and housing-based systems are susceptible to heat stress, which can have detrimental effects on productivity, reproduction, and welfare. As the temperature and humidity index increased both indoors and outdoors, cows spent more time on pasture. The cows from the temperate zone preferred the outdoor pasture to their inside accommodations. A number of mitigation techniques can be utilized to ensure adequate thermal comfort when heat stress is a concern [25,44].

Temperatures that are too hot or too low can generate stress, which, if it lasts long enough or is severe enough, can cause illness and even death. Heat stress affects feed intake, which has a negative impact on welfare. If the water supply is limited, heat stress can result in extended thirst since it increases the amount of water needed. The animal may experience psychological distress as a result of both heat and cold stress. In addition to malnutrition, cold stress poses a specific risk to young animals and contributes significantly to neonatal death. Heat stress may be caused by inadequate housing, poor ventilation, and excessive stocking density. Dairy cows raised in warm climates are also frequently and seriously affected by heat stress. Exotic breeds of animals that are not acclimated to the environment, especially in the tropics, may be more susceptible to heat stress. For example, if the vehicle lacks climate control, animals may experience thermal discomfort while being transported [16].

Lameness

Dairy lameness is a very noticeable problem in terms of output, economy, and well-being. Lameness, which denotes a painful condition and discomfort, is one of the most important issues with cattle welfare. Any cow who is lame typically has health issues, is in pain, and is uncomfortable. It undoubtedly has an impact on the performance and output of cows as well as their welfare [2,81]. Hoof stress and foot trauma are caused by the design of indoor living facilities, which causes cows to stand on concrete floors and spend less time lying down [33]. Silva et al. (2008) also identified hock lesions as a significant problem for the welfare of agricultural animals. Disease may be seen as an important welfare indicator since it is typically associated with negative emotions like pain, discomfort, or distress. In dairy cattle, lameness is a serious welfare concern [22,81]. Lameness has serious repercussions for dairy farmers as well as dairy cows. First and foremost, lameness is a significant issue for animal welfare since numerous studies have shown that affected dairy cows exhibit indicators of pain and suffering [21].

For instance, compared to non-lame cows, cows with lameness exhibit decreased mobility or irregular gaits, spend less time standing or walking, and graze for shorter lengths of time. The productivity of dairy cows suffers as a result [38,57,83]. A few of the many factors that affect hoof health include conformation, diet, infectious diseases, hygiene, the housing system, animal behavior, and management [56,67]. Lack of rest may be detrimental to an animal's wellness and increase the chance of lameness (Axberg, 2016). Each cow receives a locomotion score in a matter of seconds. It is visually rated on a scale of 1 to 5, with 1 representing a cow that walks normally and 5 being a cow with three lame legs. In general, locomotion scores of 2 and 3 are thought to indicate cows that are subclinically lame, whereas scores of 4 and 5 are thought to represent cows that are clinically lame. Lameness in dairy cows has a detrimental effect on the productivity and wellbeing of the herd [2,56,71].

Body Injuries

Various bodily locations were observed to have injuries on the body's surface. The neck, brisket, hock joint, carpal joint, tuber coxae, ischial and rib cage areas, teats, and udder were among these body parts. In these smallholders' dairy cattle units, whether they were indoor or zero-grazing, inadequate feeding area per animal at the feed bunk was frequently seen. As a result, the cows displayed more hostile and competitive behavior toward one another and, in particular, toward the inferior cattle during feeding periods. Such behavior is likely to limit feeding time and cause physical harm to other parts of the body in addition to the neck area [40].

Abuse or harsh handling can lead to injuries; the latter is especially common when animals are loaded and unloaded during transport. Accidents can result in injuries, such as when animals run into a wall, a fence, or some other obstruction or become caught in wire. Injury-causing elements include slick floors, sharp edges, and protrusions in housing facilities that are poorly designed or maintained. Animals fighting each other can lead to injuries. When animals are combined with strangers, fighting is more likely to occur [16].

Diseases

The manifestation of normal behavior can be hampered by diseases, which can also cause pain, suffering, and distress. Animal welfare depends on the physical well-being of the animals [3,13]. Compromised health problems are painful and stressful for the animals and will impair their capacity to respond to the current environmental demands. On the other hand, whether a strong welfare state aids in enhancing physical and mental health is still a fascinating area for further study [10]. There is currently no agreed-upon definition of animal health. Although Stephen's (2014) concept specifically refers to animal health, it also works well in a wider context. We changed "wildlife health" to "animal health" in order to adopt the concept of animal health generally. Three qualities are highlighted: 1) The capacity to adapt to change through time results from the interaction of biological, social, and environmental variables that support and preserve health; 2) characteristics of the animals and their ecosystem that affect their vulnerability and resilience to a suite of interrelated social and environmental harms should be considered instead of what is present (i.e., the absence of disease or hazards); and 3) animal health is not a biologic state but rather a dynamic human social construct based on social expectations and scientific knowledge. [4,74].

In contrast to intensive systems, extensive systems are more susceptible to some diseases. Examples of serious disease-causing parasites in large animals include internal parasites like worms and external parasites like mites and ticks. Importantly, certain breeds, such as genotypes of Bos indicus, have higher resistance to parasites, including ticks and helminths [32]. Additional causes that contribute to livestock's poor health and discomfort include hoof injuries caused by foot rot [65]. Under comprehensive management systems, a variety of elements may constitute a risk for disease [34].

For instance, animals with various sanitary conditions may share grazing grounds and water sources, which poses a biosecurity risk. Extensive management systems make it more challenging to put disease control methods like quarantine, vaccination, and disinfection into practice. Although it is crucial to design disease management measures, cooperation between herders may also be challenging. Since restraint facilities that allow for intimate examination and treatment of sick animals are rarely accessible in vast regions, treating sick animals can be quite challenging. Disease transmission between livestock and wildlife can occur in both intensive and extensive settings. However, in complex systems, it may be difficult or impossible to implement the primary approaches for preventing disease spread. A stronger interaction between domestic and wild animals is possible in some complex production systems. Due to the shared ecosystems between cattle and wildlife, a number of diseases can spread between them. These illnesses may be caused by parasites, bacteria, or viruses. According to Bengis et al. (2002), pathogen transmission at the livestock-wildlife interface frequently occurs in both directions. For instance, livestock have exposed naive wildlife populations in North America to a number of infections, including the TB bacterium and bovine brucellosis [52]. According to Kock et al. (2002), the vast livestock systems and disease status in Africa pose a threat to the continued existence of traditional pastoral societies and wildlife resources. As previously mentioned, health issues related to contaminated water are additional illness hazards [76]. In complex systems, prompt identification of an ill or injured animal is difficult, which hinders effective medical care. Reduced mobility and reduced feed intake, which are signs of disease or injury in animals, may be automatically identified and the farmer informed so that prompt treatment can be given [68]. PLF technologies may be able to identify health problems in farmers. Although PLF systems were first created for use in systems with greater intensity, there is no justification for not utilizing them in extensive systems. PLF technologies enable the 24/7 monitoring of the animals and the early identification of ill or damaged ones. PLF can assist farmers in improving the efficiency of extensive systems without necessarily increasing their intensity [55,68].

Painful Husbandry Practices

Management practices like castration, tail-docking, dehorning, disbudding, branding, nose ringing, and mulesing (i.e., severing the wool-bearing and wrinkled skin from the perineal region and adjoining hindquarters of sheep) are traumatic and painful for animals, regardless of the production systems. According to Stafford (2017), Adcock and Tucker (2018), Temple and Manteca (2020), and others, several of these treatments cause acute pain that lasts for several hours and is followed by chronic discomfort that can last for more than 48 hours. As previously stated, general behavioral changes are the main basis for pain evaluation because they are sensitive and non-invasive pain markers. According to Molony et al. (2002), Fitzpatrick et al. (2006), and Guesgen et al. (2016), behavioral alterations such as lip-curling, trembling, vocalization, and aberrant postures have been reported in lambs undergoing tail-docking or castration. Such operations hurt the animals and are unpleasant for livestock farmers. In some instances, there is insufficient proof of a practice's benefits, and it should be stopped. For instance, dairy cows' tails are frequently docked in several nations in an effort to lower the risk of mastitis, yet there is no evidence that this practice is effective. Alternatives that are less painful should be used in other situations. For instance, while both procedures are difficult, dehorning a young calf or kid is much less painful than dehorning an adult. The least painful technique should be employed, together with the administration of anesthesia and post-operative analgesics, whenever surgery is obviously necessary and there is no recognized alternative. However, it has been determined that one of the main obstacles impeding the normal adoption of pain mitigation strategies is a lack of awareness of pain management techniques [59,76].

Social Behavior

Social licking and other beneficial social interactions have a favorable impact on well-being for at least two reasons. First, it has been demonstrated that they cause physiological reactions that are perceived as pleasant. By "social buffering" the stress response, they also lessen the detrimental impacts of stressful experiences. Fear, pain, and distress can be brought on by negative social interactions such as lengthy, intense, and destructive hostility. Fear and suffering are negative emotional states, making them welfare issues in and of themselves. Stress can affect the immune system and reproductive capabilities, as well as reduce food intake and growth rates. Normal social behavior cannot be expressed when one is raised alone. The introduction of novel animals or the mixing of unfamiliar animals can cause established social groups to break down, which can result in an excessive and harmful rise in aggressive behavior as well as a decrease in pleasant social interactions. A rise in unpleasant social interactions may result from housing situations that enhance competition for resources. This could occur if there is an excessive stocking density or if there is restricted access to resources like feeding or resting areas [16,76].

Fertility

The fertility of a dairy herd is a key factor in profitability. The productivity of dairy cattle around the world is significantly influenced by a herd's capacity for reproduction. Poor fertility causes economic losses due to the expense of a protracted calving interval, higher insemination expenses, lower returns from born calves, and forced replacements in the event of culling. Poor fertility causes a delay in conception, which lengthens the calving interval primarily as a result of an increase in the number of days between calving and conception [56]. There are compelling reasons, both economic and welfare-related, to include reproduction in selected systems, according to Berglund (2008). Female fertility is a complex phenomenon that is difficult to characterize as a single feature. Some of these characteristics are connected to the early return of cyclicity and the manifestation of recognizable estrous behavior, while others are connected to the cow's capacity to conceive and carry a fetus for a finite number of inseminations. Additionally, cows should be capable of calving and produce healthy calves (Berglund, 2008) [56].

Avoidance Distance Test

The human-cattle connection is the most crucial element in determining cow comfort [7]. An essential aspect of farm animal care is the relationship between humans and animals. The interaction with humans has a significant impact on the welfare of many farm animal species [56]. There are numerous examples of how positive interactions promote well-being while making handling, milking, and mastitis less likely by encouraging adequate milk flow [23]. Milk production can be increased and flight distance from humans can be decreased by changing stockpeople's attitudes and behaviors toward dairy cattle. In addition, the stockperson's behavior and the animals' fear of people are significantly influenced by the stockperson's attitude toward interacting with farm animals [56,80].

Conclusions

Farm animals will only give maximum product when their rights and well-being are respected. In addition, education and enforcement of premier management practices associated with livestock handling for concerned groups are expected. Developing countries like Ethiopia need to develop systems to inspect animal facilities and ensure that animal welfare issues are addressed well in all institutions and facilities dealing with animals. Improving cow comfort through stall modification can provide immense benefits to animal well-being, milk production, and cow longevity, altogether minimizing farmer frustration and stress. Clear animal welfare standards combined with efficient use of inputs will allow producers to compare themselves with their peers and deal with such problems more effectively.

Author Statements

Conflict of Interest

The authors declare that no competing interests in the publication of this paper.

Data Availability

The data sets used during the current study or review are available from the corresponding author upon request.

Author Contribution

Tesfaye Belay Balcha: Conceptualization, writing original review and editing, visualization.

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