RITUAL AND TRADITIONAL SLAUGHTER PRACTICES FOR MEAT PRODUCTION

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Abstract: Undoubtedly, meat is an important source of nutrients that are essential for human health. Slaughtering process plays an important role related to animal welfare, meat quality, safety and public health throughout meat production chain. This paper sets out to present the relevant aspects of ritual and traditional slaughter with recommended animal welfare to reduce pain and maintain meat quality. The procedures used for animal slaughter have varied between regions and faiths. Due to increasing of population size and buying power, the global meat market has become increasingly interested in Islamic halal and Jewish kosher slaughter in particular. Religious slaughter such as halal and kosher compared with other procedures of slaughter remains an argumentative matter among religious groups, welfare groups, scientists, the general public, and governments. The permissibility of pre-slaughter stunning is a central issue separating these religiously-based procedures of animal slaughter from those used by industrial meat producers that have become conventional in developed countries. It is important to optimize efficient bleeding and skilful handling of animals to reduce pain and put wholesome meat on the table of consumers.

Keywords: Halal, Industrial Slaughter, Jhatka, Kosher.

Introduction

Slaughtering process plays an important role related to animal welfare, meat quality, safety and public health throughout meat production chain (Aghwan, 2018). Meat is a tasty flesh and organs of domestic livestock which contains essential nutrients for human health such as protein, fat, vitamins and minerals. Additionally, the content of some essential nutrient in meat such as selenium and iodine can be enhanced via rising their supplementation in animal feed (Aghwan et al., 2016b). There are many slaughter procedures that religions and cultures use around the world. The four methods that are most prevalent in the international sphere are halal, kosher, industrial (stunning) slaughter, and Jhatka (the least applied internationally). The two that are commercially relevant are the halal and kosher methods practiced by Muslims and Jews.
respectively. For Jews and Muslims specifically, there are significant religious requirements which have been observed from the earliest days of these faiths. In Islam these requirements are embodied in the concept of halal, an Arabic term that means permitted. In Judaism the requirements are encoded in the concept of kosher, ritual purity, which is based on Jewish dietary law called kashrut.

The global trade in red meat and co-products from animals slaughtered using these two procedures is substantial and growing (Aghwan et al., 2016a). Halal slaughter of edible animals for food is a ritual of the shari'ah that purifies an animal from blood and filth thereby making it good and wholesome for human consumption. Despite its short duration, halal slaughtering is a vigorous step in the production of halal and tayyib (acceptable and wholesome) meat for Muslim consumption (Nakyinsige et al., 2014). Accordingly, Muslim consumers reflect the importance of spiritual considerations over any other factor in determining the quality of meat and when purchasing meat for their consumption (Nakyinsige et al., 2013).

Stunning of animals before slaughter is not permissible in the majority of Muslim countries due to the apprehension of falling into suspicious practices (Nakyinsige et al., 2013). A number of stunning techniques currently available have been accepted by several Muslim countries as long as the animal remains alive at the time of cutting. It is allowed in Malaysia, Indonesia, and some Muslim communities such as some of those in the UK, EU (Sweden, Germany, Norway, Switzerland, and Denmark), the USA, Australia, New Zealand, South Africa, and Brazil where reversible forms of percussive (non-penetrative) and electric stunning (head only) may be used prior to halal slaughter for livestock. However, several findings showed some disadvantages for the aforementioned stunning techniques when applied to animals.

**Problem Statement**
Parallel with the meat production and food safety, animal slaughter practice is the ultimate fundamental process to transform the animal into pieces suitable for human consumption. The type of slaughter is an issue of interest to all parties of meat production supply chain such as breeders, slaughterhouse management, producers, distributors, and consumers. According to Aghwan 2016, religious slaughter remains an argumentative matter among religious groups, welfare groups, scientists, the general public, and governments. One of the major controversy point in the Muslim community is whether or not to allow pre-stunning before slaughter (Anil et al., 2006). Grandin (2017) reported that although slaughter of animals without stunning is one of the popular aspect of halal and kosher meat trading, yet it continue to exist as a main controversial matter from an animal welfare view point. Recently, it has been presented that animal response to pre-slaughter stunning before exsanguination has been reported to affect bleeding efficiency and meat quality (Kiran et al., 2019).

**Halal Slaughter**
Halal meat is one of the important issues in Islam. Therefore, halal acceptable animals and birds must be slaughtered according to Islamic rituals to render them halal. Moreover, it is essential that these meat products are conserved separately through the supply chain to avoid the risk of contamination (Aghwan, 2018). Halal slaughtering process is killing and butchering of non-forbidden animals for food. According to Islamic tradition, the conventional method used to slaughter the animal involves cutting the large arteries in the neck along with the esophagus and trachea with one swipe of non-serrated blade (Figure 1).
Muslims argue it provides a relatively painless death and helps to effectively drain blood from the animal (Aghwan, 2016). It is very specific operation regulated by strict rules, which is derived from the holy Quran and Hadith, destined to insure animal health and welfare as well as food hygiene (Aghwan et al., 2016a). One of the main conditions of halal slaughtering is that the neck is partially cut without decapitation leaving the spinal cord intact and body should be released immediately after slaughtering.

When halal animals or birds such as sheep, cattle, poultry, etc, are slaughtered according to the Islamic method, the meat is considered lawful for consumption. This is clearly mentioned in Al-Quran:

“So eat of meats on which Allah’s name has been pronounced if you have faith in His signs”. (AlAn’am: 118).

The animals/birds to be slaughtered must be handled with mercy and kindness. In this context, the Prophet Mohammed (peace be upon him) preached when he said:

“Allah has decreed that whatever is to be done should be done perfect and sublime. Hence, when you kill, kill well, and when you slaughter, slaughter well, sharpen your blade and handle with kindness, that which slaughter”. (Sahih Muslim)

There are two categories of slaughter:
1) Al-Dhabh (Slaughter) - Cutting the throat: that is cutting the trachea and oesophagus and the jugular veins. Usually used for sheep, cattle and poultry.
2) Al-Nahr (slaying) Stabbing the throat and then cutting it up to the top of the chest. Usually used for camels and other animals with a long neck.

In Shariah law, slaughtering is not a normal matter in which humans act independently as they wish, but it is rather a matter of worship which Muslims must abide by in its provisions.
Practices Related with Animal Welfare When Slaughtering

Compassionate slaughtering of animal being killed for meat production through keeping animal to a minimum suffering and respect for animals’ intrinsic worth. Pre-slaughter management which requires animals gathered on the farm, transportation, lairage, and animal restraint are crucial functions that probably have negative effects on animal welfare and accordingly meat quality outcomes (Aghwan et al., 2016a). The competent management and skilful personnel of the slaughterhouse can realize welfare issues that occurred on the farm. This could push the breeders to apply more attention to perform the correct process of animal handling and managing which eventually improve animal welfare. Accordingly, welfare assessments at slaughter have the possibility to considerably get animal welfare better. Grandin 2017 reported that welfare issues that took place on the farm that can be appraised at the slaughterhouse are body condition, lameness, lesions, injuries, and animal cleanliness. It is important to acknowledge that Islam respects the intrinsic worth of animals and teaches animal welfare. This is possibly what Prophet Muhammad (peace be upon him) sermonized when he said:

“Allah calls for mercy in everything, so be merciful when you kill and when you slaughter; sharpen your blade to relieve its pain”. (Al-Qaradawi, 1994).

The word in Al Qur’a’n and Sunnah call to treat animals with kindness and attention. Moreover, it was clearly mentioned in Al Qur’a’n about the human right to use the animal including eating its meat. There are many Quranic verses on this subject:

“And the grazing livestock He has created for you; in them is warmth and [numerous] benefits, and from them you eat”. (An-Nahl: 5)

“And they carry your loads to a land you could not have reached except with difficulty to yourselves. Indeed, your Lord is Kind and Merciful”. (An-Nahl: 7)

It has been reported that Islam put a considerable importance on animal welfare, especially before and during slaughter (Nakyinsige et al., 2013). Some of the conditions, to mention but a few, include:

- Water should be offered to the animal before slaughter, and it should not be slaughtered when hungry.
- The knife should be hidden from the animal, and slaughtering should be done out of sight of other animals waiting to be slaughtered.
- Animals should be killed in a comfortable way. Unnecessary suffering to them must be avoided.
- The animal must be slaughtered by the use of a sharp knife. The knife must not kill due to its weight. The knife should be re-sharpened before slaughter.

Processing and Storage of Halal Meat

According to the HACCP Guidebook (USDA, 1999), a hazard analysis is the recognition of chemical, physical, and biological characteristics in raw materials and processing line and an assessment of their occurrence and potential to render food unfit for consumption. Post-slaughter handling must ensure no biological contamination to reduce the risk of microbial contamination. Facilities, including the work table, cutting board, knives and workers clothes must be clean according to good manufacturing practices. Temperature is the key to food safety, with chilling, freezing, storage or distribution to destroy and slow the growth of pathogens in the product (Kohilavani et al., 2015). Meat chilled or frozen for export to Muslims should be...
stored in separate cold stores other than those in which pork or other non-halal meat is stored. Additionally, meat minced or processed for Muslims should not be minced in the same machines used to mince pork or other non-Halal meat.

**Kosher Slaughter**

Shechita is the ritual procedure of slaughtering of permitted (kosher) animals (domestic animals that masticate their cud and have cloven hooves) and birds according to Jewish dietary laws, which themselves originate from the Torah and the verbal law received by Moses on Talmud (Regenstein et al., 2003). Similar to halal slaughter technique, shechita is carried out without stunning. The esophagus, trachea, jugular veins and the carotid arteries of the animal are cut and its blood is allowed to flow out—again because blood contains impurities that render meat unsuitable for human consumption. Additionally, beheading is not permissible.

The Jewish religious codes require that allowed animals be slaughtered by a specially trained Jewish male (shochet). He is trained to use a special knife, called the “chalef,” to rapidly cut in a single stroke the jugular vein and the carotid artery without burrowing or tearing or ripping the animal. The knife is checked regularly for any imperfections which would invalidate the slaughter. This process, when done properly, leads to a rapid death of the animal (Regenstein and Grandin, 1992).

**Pre-Slaughter Stunning**

Stunning was primarily carried out as a procedure of animal immobilization to let easier and safer manipulation of the animal. Additionally, from a welfare point of view, the primary aim of stunning is to render the animal insensible so that it may not feel pain during slaughter (Nakyinsige et al., 2013). There are some aspects that have been discussed by the Muslim scholars about the permissibility of the animal stunning prior to its being slaughtered. The critical point here is whether or not the animal will actually be killed by the stunning or only loses consciousness (Aghwan et al., 2016a). In developed countries there is a legal requirement to render the animals instantly insensible to pain prior to slaughter. This is achieved by using mechanical or electrical equipment or by narcosis using gases such as carbon dioxide. Pre-slaughter stunning of animals using electrical shock is permissible in some Islamic authorities if it meets some provisions like the position of electrodes, voltage range, electrical current range and period, type of machine and electrodes used (Aghwan et al., 2015). There should be provision of adequate training for the slaughterers.

**Jhatka Procedure**

Jhatka is the smallest of the religious traditions of animal slaughter that is commercially practiced (Clottey, 1985). According to Hindu law, Jhatka is a technique for slaughtering an animal for meat to be consumed by Hindus. There is no spiritual sacramental implicated with Jhatka (IndiaCurry, 2015).

In the procedure, the head of the animal is tethered to a stable column and the posterior legs are stretched out on the opposite direction. The animal is beheading from the backbone side with a single stroke of sword or axe which causes sudden death. Consequently, the animal will not realize any pain. According to India Curry 2015, this method is deemed to cause the least pain and suffering to the animal in comparison with other methods. Subsequently, dressing of the animal will be carried out to be ready for consumption.
The argumentation concerning the animal welfare and meat quality aspects related to slaughter without stunning goes on. Muslim and Jewish beliefs have particular needs for the slaughter of lawful animals. The main difference from the general slaughter practices is that the animals are not stunned prior to slaughter. It is important for scientists to understand that the main reason for the observance of the Islamic and Judaism faiths is to follow the Divine Orders (Nakyinsige et al., 2013). It is also important that scientists involved in working with animals to understand the implications of these differences.

Conclusion
All killing procedures are stressful to animals. It is therefore important that all operators involved with stunning and slaughter are competent, properly trained and have a positive attitude towards the welfare of the animals. More research is needed to optimize efficient bleeding and skilful handling of animals established on the principles of halal, welfare, and scientific evidence which will put wholesome meat on the table of consumers. Precise slaughter methods reduce pain and maintain the quality of the end product.

Reference


