CHAPTER 1

INTRODUCTION

1.1 Introduction

Food is a basic physiological need for survival, while nutrition and health are synonymous to the sense of well-being. Good nourishment and access to a suitable diet and health are essential for human growth and development, and protection from both infectious and non-communicable diseases. Balanced nutrition and a healthy productive population are increasingly recognized in the modern society. Over years of rapid modernization, modern lifestyles are exposing Malaysians to health issues and risk of non-communicable diseases such as diabetes, hypertension, and high cholesterol to various segments of the population. According to the 2019 National Health and Morbidity Survey, two-thirds of Malaysians suffer from at least one of three noncommunicable diseases (NCDs): diabetes, hypertension, or hypercholesterolemia. Moreover a quarter of people have at least two NCDs, and nearly 10% have all three (Institute for Public Health, 2019). As more Malaysians are exposed to various health concerns, there is an increase in demand for health-improving foods. Malaysians' heightened health concerns have resulted in the availability of more health-promoting items on the market. Increased use of functional foods, nutraceuticals, and organic foods has been driven by more knowledgeable Malaysians (Lau et al., 2012). On the other hand, in nutrition research, more and more researchers are describing goat milk as functional food (Danviriyakul et al., 2011; de Asís Ruiz Morales et al., 2019; Mohanty et al., 2016; Yangilar, 2013), therapeutic

food (Park, 1994; Ribeiro & Ribeiro, 2010; Slačanac et al., 2010), and as nutraceutical food (Chauhan et al., 2018).

Food consumption behaviours are cultured during socialization and carried over from generation to generation. Sociocultural influences are crucial in determining individual's eating behaviour and the individual's behaviour normally influences by social norms and standards (Zeeni et al., 2013).

Functional foods are foods that may provide health benefits beyond basic nutrition (Bech-Larsen & Grunert, 2003). Lau et al. (2012) mentioned, the Consensus Document issued by the European Concerted Action on Science of Functional Foods describe a food as "functional, if it has been unequivocally proven that it positively influences one or more biological functions in the human body, improving the state of health and wellness, and reducing the risk to develop a disease". Goat milk nutritional properties and its lower allergenicity in comparison to cow milk, especially in non-sensitised children, has led to an increased interest in goat milk as a functional food, and it now forms a part of the current trend to healthy eating in developed countries (Yangilar, 2013).

According to Merriam-Webster dictionary, therapeutic is defined as "of or relating to the treatment of disease or disorders by remedial agents or methods". Goat milk is also recognised for its medicinal and therapeutic effects on people who are allergic to cow's milk. Goat milk therapy is said to have benefited infants with cow milk allergy symptoms. Nearly 40% of patients who are allergic to cow milk proteins can accept goat milk proteins, making it ideal for persons with eczema and other conditions such as asthma, migraine, colitis, stomach ulcer, digestive disorder, liver and gallbladder diseases and stress-related symptoms such as insomnia, constipation and neurotic indigestion (Park, 1994).

A nutraceutical is any substance that may be considered a food or part of a food which provides medical or health benefits, encompassing, prevention and treatment of diseases. “When functional food aids in the prevention and/or treatment of disease(s)/disorder(s)” other than deficiency conditions like anaemia, it is called a nutraceutical (Dudeja & Gupta, 2017). For an example, milk contains non-digestible sugars called oligosaccharides, which can function as a prebiotic. Prebiotics promote the growth of helpful gut bacteria while inhibiting the growth of harmful bacteria, which helps to maintain the health of digestive system. Because of their prebiotic and anti-infective effects, oligosaccharides are recognized as helpful components of human milk. Goat milk contains 250 to 300 mg/L oligosaccharides, which is approximately 4-5 times more than cow milk (Chauhan et al., 2018). Examples of other nutraceuticals are flavonoids, green tea and quercetin from plants as immunity boosters (Dudeja & Gupta, 2017).

In Malaysia, generally food availability and variety are abundant due to our multicultural nature. Nonetheless, it is essential for consumers to make a conscious decision on food choices and consumption in order to contribute to good health. Nutritious foods such as goat milk is playing an ever more vital role in enhancing stronger immune system and illness prevention of people of all ages.

1.2 Background of the Study

1.2.1 Milk

Milk is a unique and complex food of great interest, intended to be a complete food for young mammals. According to Mohanty et al. (2016), milk from cow, goat, sheep, buffalo, and camel are potentially health-promoting functional foods, especially

with its bioactive peptides that has multifunctional properties “targeted at diet-related chronic diseases especially the non-communicable diseases”. Types of milk available in the market can be broadly categorized into three groups based on the following:

1. Heat treatment Raw milk are untreated milk. Although it is highly nutritious, it is not recommendation for direct consumption as it carries risks of pathogen such as *Campylobacter*, *Salmonella*, *E. coli*, and *Listeria monocytogenes* contamination from the milking process (Widyastuti & Febrisiantosa, 2013). Secondly is the pasteurized milk. It is heat-treated at minimum 72℃ for 15 seconds, which does not fully eliminate the microorganisms present in the milk but makes it sufficiently safe for consumption. Pasteurized milk kept at refrigerated temperature below 4℃, has shelf life between 10 - 21 weeks. UHT is ultra-high temperature. Milk is treated at 138℃ for 2 seconds. At this temperature, the milk is treated at high temperature but short time to minimize nutrient loss. UHT can be kept safe at room temperature unopened for extended shelf life of 30 – 90 days (Cornell University, n.d.).

2. Fat content Based on percentage fat content, milk can be categorized as full cream milk (3.2 – 3.8% fat), reduced-fat milk (2% fat), low-fat milk (1% fat), and skim milk (<0.1% fat) (Institute of Food Research; Department of Health, 2015). Fat content in milk can be standardized by separation process such as centrifuge and then recombine to produce the desired products (Park, 2019). Milk fat contributes to colour, texture, and flavour of milk. Health-conscious people may prefer products with lower percentage of milk fat due to its lower calories.

3. Moisture content Evaporated milk, sweetened condensed milk, and powdered milk are milk products produce by removing milk moisture content. Both evaporated milk and condensed milk had 60% of their moisture content removed, before sugar is added to sweeten the condensed milk. Powdered milk has as much as

95% of moisture removed to make it into dry milk. Reducing moisture content can prolong the shelf-life of milk (FAO - OECD, 2018). According to a survey by Zainal Badari et al. (2012), sweetened condensed milk, followed by powdered milk are the most consumed types of milk in the Malaysian households.

The important role of cow's milk in the human diet as a supplier of energy, protein, and other key nutrients, including calcium, is well known. Milk is essentially a complex colloidal system comprising globules of milk fat suspended in an aqueous medium containing lactose, a range of proteins, mineral salts, and water soluble vitamins (Kliem & Givens, 2011). Milk has long been and will always be consumed as part of a healthy balanced diet as it contains an impressive array of nutrients. Scientific data are continuously being published, documenting both already available knowledge concerning its nutrients content and also new information about health and prevention of diseases.

Globally, recent decades have witnessed an increase in milk consumption, due to growing interest in the nutritional value of this animal-derived food (Kliem and Givens, 2011). Kurajdová et al. (2015) identified four essential motives (reasons or drivers) of milk consumption. The first motive is its nutritional composition. Milk is considered to be one of the most nutritionally complex and balanced foods containing a wide range of essential nutrients required for growth, development, overall health and wellbeing throughout one's life cycle. The second is its positive impact on health preservation and various diseases prevention, such as the pleasing impact of milk consumption on the prevention of osteoporosis, the reduction of blood pressure and the reduction of type 2 diabetes occurrences, the occurrence of breast cancer, colon cancer and rectum cancer, strengthening cognitive behaviour and improving the quality and texture of skin. The next two motives are tradition and utilization. It is

interesting to note that despite all these motives, the Ministry of Agriculture reported that Malaysians only consume an average of 53.0 litres/year of milk per capita in year 2000 (Noor, 2002). Apart from the high demand for cow milk, there is a growing interest in goat milk, which is thought to be more digestible and have less allergic reactions than cow milk (Haenlein et al., 2007).

Aside from being well-known as highly nutritious prophetic food, "goat milk is also part of the historical Mediterranean Diet, famous for its health benefits and recognized as part of the Intangible Cultural Heritage of Humanity by the United Nations" (Miller & Lu, 2019). Even though goat milk is a nutritious natural product, its functional and nutritional value is less widely known among consumers (Ozawa et al., 2009). Goat milk differs from cow in having better digestibility, alkalinity, buffering capacity and certain therapeutic values in medicine and human nutrition (Haenlein et al., 2007). It is evident that goat milk is an excellent food source. It has favourable impacts on children's and elderly people's health, physiological processes, and nutrition (Yangilar, 2013).

The most enticing feature of goat milk is how easily it can be digested. The casein curd formed by goat milk is softer and smaller than that produced by cow milk, which makes it more digestible. This makes it easier to be tolerated by the human digestive system (Haenlein et al., 2007). When comparing diets of goat and cow milk respectively, studies show improved digestive utilization of fat and protein, and higher apparent digestibility coefficient and absorption of calcium, phosphorus, magnesium, iron, copper, zinc and selenium (Alférez et al., 2001, 2003; Barrionuevo et al., 2002; Chauhan et al., 2018).

Research on the composition of various commercialised goat milk products (Park, 1990, 1999) revealed that goat milk and its products would be excellent sources

of human nutrition comparable to cow milk products. Also in these further studies, it shows that the utilization of fat and weight gain was improved with goat milk in the diet, compared to cow milk, and levels of cholesterol were reduced, while triglyceride, HDL values remained normal (Alférez et al., 2001). It was concluded that the consumption of goat milk reduces total cholesterol levels and the LDL fraction because of the higher presence of medium chain triglycerides (MCT) (36% in goat milk versus 21% in cow milk), which decreases the synthesis of endogenous cholesterol. Thus goat milk is recommended as a "useful alternative to cow milk for all age groups especially to children."(Alférez et al., 2001)

The unique characteristics of goat milk have been surveyed regarding its nutritional value and some health effects. Fermented goat milk incorporating live probiotic cells represent a group of products with great prospects in the future with regard to their nutritive and therapeutic properties (Slačanac et al., 2010). Goat milk products other than cheese and pasteurized milk are considered to be the dairy products with the greatest marketing potential. Therefore, nutritive and consumption characteristics of goat milk are currently the focus of increased research interest.

In short, Haenlein (2004) summarized the three aspects of demand for goat milk being firstly, goat farming increase the livelihood especially rural people. Secondly where goat cheeses and yoghurt are quite common such as in Mediterranean counties, there is always demand for more goat milk. Lastly, goat milk is increasingly demanded due to its health benefits such as more tolerated by people with gastro-intestinal ailments and increased awareness of using goat milk in traditional medical treatment.

1.2.2 Health Consciousness

Gould (1990) viewed health consciousness as inner status of a person about his/her health. Health consciousness is positively related to dietary pattern such as vitamin intake, calorie reduction. Health-conscious people discusses health related issues, seek health related information; and are found to take preventive actions such as exercise and consumption of nutritious food (Iversen & Kraft, 2006). Hence, health consciousness and nutritional intentions are closely connected.

Health consciousness and use benefits are the major reasons for adopting dairy but there are many other factors that influence the behaviour of consumers. Often, people are inclined toward dairy because of the perception built as a result of their past consumption experience and learning process. Many studies have shown that religion can affect consumer behaviour and the buying decision (Mullen et al., 2000; Pettinger et al., 2004). Social elements such as culture, family, friends, economic conditions, and seasonal circumstances are supposed to be key motivational factors and influence the buying behaviour of consumers (Aertsens et al., 2009).

Consumers hold the view that milk contain numerous health protective ingredients as well as nutritious. Consumers have become more health conscious and are motivated to buy food products containing high nutritious value. There are many external and internal factors that influence consumers while buying a particular food product. These factors include consumer's demographic, psychological and the impact of social elements like culture, economy, and season. For the general link between food and health, the recent literature showed that consumers' are interested in the nutrition properties of food products they eat and its relation to health (Lau et al., 2012; Worsley, 2002).

1.2.3 The Theory of Planned Behaviour

The Theory of Planned Behaviour is an extension of the earlier Theory of Reasoned Action (TRA) and proposes that behaviour is determined by a combination of an individual's intentions to engage in that behaviour and their perceptions of control over the behaviour. Intentions, in turn are held to be predicted by attitudes, subjective norm (perceived social pressure) and perceived behavioural control (the degree to which the behaviour is perceived to be under the control of the individual) (Povey et al., 2000). In the context of this research, it is important to study the attitude, social influence, and self-efficacy in determining the intention to consume goat milk with health consciousness as a mediator.

Many factors can affect people' attitudes toward foods; such as personality traits, emotion and mood. Chen, (2007) showed that food related personality traits, defined as food involvement (the level of importance of food in a person's life), exert a positive effect on the consumer's attitude towards organic food products (Chen, 2007). Bell and Marshall, (2003) mentioned that the level of food involvement was a significant discriminating factor between food items in sensory evaluations. Subjective norms also have a positive effect on consumer's intention related to goat milk. Subjective norms constitute the perceived social pressure to engage in a behaviour which is affected by a set of normative beliefs. For example, when consumers perceive more behavioural control over food consumption, the intention to consume will increase. Perceived behavioural control is the perception of the extent to which the behaviour is controllable (Verbeke & Vackier, 2005). Hence intention to consume goat milk among the Malaysian consumers needs a thorough investigation to

ascertain multicausative factors such as attitude, social influence and self-efficacy that influence their intention to consume of goat milk.

1.2.4 The Knowledge, Attitude, and Practice (KAP) Theory

According to Fan et al. (2018) "KAP theory" is a health behaviour change theory that mentions changes of human behaviour are divided into three successive processes: acquisition of knowledge, generation of attitudes and formation of behaviour. Knowledge lays a foundation towards changes in attitude and behaviour (practice). Knowledge is defined as a set of understandings, while attitude is a tendency or constant tendency towards certain objects, individuals or situations, and practice is an observable action towards the stimulus (Hiew et al., 2015). It is important for the community to know the benefits of goat milk nutrition to cultivate a more positive attitude to make conscious decisions towards increasing goat milk consumption (Fan et al., 2018). Studies on knowledge, attitude, and practices are essential so that continuous education and intervention programme can be conducted accordingly (Ithnin et al., 2020). This also means that people who are convinced when they obtain specific knowledge, will change their attitude, and start practicing behaviour change. A knowledge, attitude, and practice survey is useful in evaluating the effectiveness of intervention programmes. In addition, it is able to assess a target group's current knowledge, attitude and practice on a specific health topic (Hiew et al., 2015).

Goat milk is well customary in Malaysia as being highly nutritious but its popularity and usage among Malaysian are lower compared to cow milk. Informational gaps need to be investigated with the support of a strong theory to identify the sound reasons behind it. A change in consumer choice and by a slight

alteration of eating habits to include and increase goat milk consumption could lead Malaysian community into a healthier lifestyle and better quality of life. By increasing awareness, exposure, and knowledge of benefits goat milk among our local community, it is hoped that the practice of goat milk in promoting health can penetrate the barriers of ethnicity, religions, and beliefs. This research will be able to reveal the mediating effect of health consciousness on consumers' goat milk consumption intention and the knowledge, attitude, and practice of goat milk among multicultural Malaysians.

1.3 Problem Statement

Good health is fundamental to good quality lifestyle. However, compromised health is often the hefty price to pay in chasing and living the modern lifestyle. The rise of non-communicable diseases (NCDs) as "the leading cause of death globally and including Malaysia were due to many changes occurred in socio-economic determinants in health such as globalisation of trade and marketing, lifestyle changes, shift of socio-demographic pattern, improved economic affordability, ease of travelling, economic transition and movement of unhealthy products, leading to high risk behavioural changes and increase metabolic risk factors" (Institute for Public Health, 2019).

According to the National Health and Morbidity Survey 2019, 50.1% of Malaysian adults were overweight or obese, which showed an increasing trend from 47.7% (2015) and 44.5% (2011). As of 2019, 1 in 2 adults in Malaysia were overweight or obese and 60.9% were from 55-59 years old age group. Hypercholesterolemia among adults were also on an increasing trend from 35.0%

(2011) to 47.7% (2015) and 38.1% in 2019. In other words, there were about eight million adults in Malaysia with raised total cholesterol level and 80% of them were on medications. Besides metabolic diseases, Asians are also known for being lactase deficiency and lactose intolerance, hampering milk consumption choices. In Malaysia, research shown that prevalence of lactase deficiency was high (87.1%, n=216) in all three major ethnic groups (Malays, Chinese, and Indians) (Goh et al., 2018). Furthermore, Makbul et al. (2022) also mentioned that adolescent with lactase non-persistence had significantly lower consumption of milk and dairy due to milk avoidance.

On the other hand, goat milk is high in proteins, vitamins, minerals, and a variety of short and medium chain fatty acids. The nutritional benefits of goat milk, as well as its lesser lactose when compared to cow milk have sparked interest in goat milk as a functional food, and it is now part of the current trend toward healthy eating in many modern countries (Yangilar, 2013). According to Malaysian Dietary Guidelines (2020), Ministry of Health Malaysia recommends taking one to two servings of dairy each day, and goat milk is a good alternative to cow milk for all age groups especially to children. Furthermore, consumption of goat milk reduces total cholesterol levels and the LDL fraction because of the higher presence of medium chain triglycerides (MCT) (36% in goat milk versus 21% in cow milk), which decreases the synthesis of endogenous cholesterol. Also, MCT are easily and rapidly digested to provide direct energy instead of being deposited in adipose tissues. MCT help lower serum cholesterol level and inhibit cholesterol deposition (Alférez et al., 2001, 2003; Barrionuevo et al., 2002).

Although goat milk is being established in Malaysia as a highly nutritious product but its popularity and use among Malaysian is lower compared to cow milk. This could be due to several allied reasons like little exposure and lack of knowledge about its superior nutritional quality. Besides, lack of knowledge may lead to poor individual interest attitude towards goat milk consumption (Rani et al., 2017). However, the practice of goat milk among Malaysians is still unknown, which is why this current research is carried out. Other studies conducted in Vietnam, Indonesia, and Thailand found similar goat milk trends in which consumption level is low, not easily available, price is 1.5 – 4 times more expensive than cow milk (Anothaisinthawee et al., 2012; Astuti & Sudarman, 2012; Nguyen & Nguyen, 2012). In Indonesia, according to Astuti and Sudarman (2012) the low milk consumption in Indonesia is due to a combination of factors including low milk supply and high product prices, as well as culture and preference. Research done in Thailand found that strong odour of goat milk is disliked by most people (Anothaisinthawee et al., 2012).

Goat milk has a significant niche market in Malaysia (Jamaluddin et al., 2012). It is highly nutritious (Haenlein, 2004) but its popularity and demand is lower compared to cow milk. Goat milk supply chain is not developed, and farm productivity is low (Jamaluddin et al., 2012). Various studies (Jamaluddin et al., 2012; Liang & Paengkoum, 2019; Suntharalingam, 2019) have discussed the challenges faced by goat farmers and the government's programmes and policies to cater towards increasing dairy farm productivity. In terms of knowledge gap, however, very few studies focused on researching to explain the low goat milk consumption from the consumers' perspective.

Information about the products is fundamental in increasing awareness and acceptance towards goat milk with due consideration to its nutritional value and by reducing misconception about its consumption. Less information exists about the specific factors that drive attitude towards goat's milk in Malaysia and its implications for a dairy milk products, ventures, and market. A change in consumers' choice to include and increase goat milk consumption as well as its use in daily life could lead to Malaysian community into a healthier lifestyle and better quality of life.

It is envisaged in this context that in addition to the attitudinal factors and the social influence, a major factor individual self-efficacy (individual initiatives) factors among the consumers need to be studied. The goat milk nutritional knowledge among Malaysian is unknown and whether improper knowledge on goat milk health benefits and attitude affect goat milk consumption is also not known. The current study is thus aimed to fill this gap by undertaking a study to assess peoples' knowledge, attitudes, practice, social influence, self-efficacy, and health consciousness towards consumption of goat milk in the Malaysian context. Malaysia is a country which accommodates multi ethnics like Malay, Chinese, Indian and others. The cultural variation and social influence factors have high prominence, whether to consume goat milk in the day-to-day life. An educational intervention programme is also planned to increase the knowledge, attitude, and practice of goat milk consumption.

1.4 Research Questions

1. What are the levels of knowledge on goat milk health benefits, attitude, and practice of goat milk among multicultural Malaysians?
2. Do attitude, social influence, and self-efficacy have any influence on Malaysian consumers' goat milk consumption intention?
3. Does health consciousness mediate the relationship between attitude, social influence, and self-efficacy on Malaysian consumer's goat milk consumption intention?
4. Does nutrition health education intervention programme increase knowledge, attitude, and practice towards goat milk in the intervention group?

1.5 Objectives

The main aim of this study is to determine goat milk consumption intention, and to improve on knowledge of goat milk health benefits, attitude, and practice among multicultural Malaysians. The specific objectives are as follow.

1.5.1 Specific Objectives

1. To determine the levels of knowledge, attitude, and practice of goat milk among ethnics in Malaysia.
2. To determine the direct and positive relationship between attitude, social influence, and self-efficacy towards goat milk consumption intention among Malaysian consumers.

3. To determine the mediation effect of health consciousness on attitude, social influence, and self-efficacy on goat milk consumption intention among Malaysian consumers.
4. To evaluate the effectiveness of eight-week health education intervention programme based on knowledge, attitude, and practice score in intervention group pre- and post-intervention.

1.5.2 Research Hypotheses

The research hypotheses are as follow:

1. There is statistically significant mean difference in knowledge, attitude, and practice score towards goat milk consumption among ethnics in Malaysia.
2. There is direct and positive relationship between attitude, social influence, and self-efficacy towards goat milk consumption intention among Malaysian consumers.
3. Health consciousness mediates the relationship between attitude, social influence, and self-efficacy towards goat milk consumption intention among Malaysian consumers.
4. There is statistically significant mean difference for knowledge, attitude, and practice score on goat milk consumption in intervention group pre- and post-intervention.

1.6 The Significance of the Study

1.6.1 Practical significance

The knowledge of food quality attributes in determining consumer consumption intention is critical for a robust assessment of the economic opportunities for industrial growth. The purpose of the study was to determine the factors correlated to consumer consumption intention on goat milk among Malaysian multi-racial community. The study clearly indicates that there are positive and significant relation between consumer attitude, social influence, and consumer self-efficacy in making a decision on whether to consume the goat milk or not. The study is an eye opener to those companies who are into distribution and sale of goat milk among Malaysian multi-ethnicity community. Making a difference from other studies the findings clearly indicate that consumers' health consciousness is strongly acting as a mediating factor in their decision whether to consume goat milk or not.

The Muslim community is well aware of the importance of goat milk consumption as it is well guided in their religious scriptures. However, the force that exerts from the religion is less with Chinese and Indian community compared to if they required it as a religious commitment. Practically it is necessary that all the ethnics in Malaysia, including Chinese and Indian communities should get adequate information about the nutritious advantages of the goat milk in order to influence their intention towards the consumption of goat milk. Henceforth, major observations of this study will lead the company management to think about effective marketing strategies in information dissemination about the nutritional value of goat milk.

Delegations, products display, website, international media, pamphlets, leaflets, seminars/workshops, printed matter (posters, leaflets) etc. like all marketing efforts

should be put in place to disseminate information about goat milk. Finally, producers should consider, when appropriate, the possibilities offered by organic goat milk, as the organic market is growing rapidly in many developed countries. As more and more consumers turn to organic foods, retailers will look for a complete range of organic products, including dairy products (Danviriyakul et al., 2011). These clearly provide the importance of nutritious elements and benefits to the consumers. Such awareness has very high significance at health management level. The ministry may look into the possible benefits of goat milk with the support of nutritious elements and promote the consumption of goat milk. It would be easy for the government to disseminate goat milk with the support of empirical confirmation.

1.6.2 Theoretical Significance

This study has high relevance in its contribution to advancement of the literature as a theoretical contribution. Following the base of the Theory of Planned Behaviour, this study researched on consumer attitude, subjective norm, and perceived behaviour control; connecting these factors with consumer's intention to consume goat milk in the Malaysian context. Attitude is the learned predisposition to respond in a consistently favourable or unfavourable manner with respect to a given subject (Robideaux, 2002). Its formation could be through experiences, observations, or environmental influences. Understanding consumer attitudes have been at the forefront of debate (Radam et al., 2010; Shih & Fang, 2004). Study observations are well explained by the theoretical fundamentals in its relationship with goat milk. Malaysia has multicultural society. Multiculturism has varied influence on consumers to look at products which are available in the market since it acquires differences in

the development of attitude. The likings and disliking are very well knit with one's attitude which has its roots in belief and perception.

In many ways, goat milk may be considered as an almost ideal food, providing a wide range of essential nutrients and potential health benefits. However, people look at varied products vary with religious point of awareness, nutritional and health benefit point of assessment, affordability point of importance and the like. Here the social influence has high importance in consumer consumption intention, substantiating the role of subjective norm influence. Subjective norm is the perceived social pressure to engage or not to engage in a behaviour (Ajzen, 2011). Lueg et al. (2006) indicate that referents (parents, peers, and friends) do influence young people's decision-making processes. They usually form their judgments and make decisions based on not only their own evaluation but also others' perceptions. This argument reflects the important role of subjective norms in people's behaviour (Lueg et al., 2006). When people engage referents, their perception of social pressure will affect whether they perform a certain behaviour (Ajzen, 1991a).

Perceived behavioural control refers to people's perceptions of their ability to perform a given behaviour It is an individual's perception of the availability of skills, resources and opportunities that may either inhibit or facilitate behaviour (Ajzen, 1991). It addresses both the internal control which is an individual's skills and abilities or self-efficacy and external constraints which are opportunities and facilities needed to perform a behaviour, which is in this case consumption intention of goat. The marketers and the companies should be well aware that information about the products is an important factor which influence the consumption intention of goat milk. Adequate knowledge about the nutritious and therapeutics value of the goat milk will

lead to consistent control over their intention to consume these products. Thus, the perceived behavioural control factor proved as a strong variable influencing the consumption intention of Malaysian consumer in this research.

1.7 Scope of the Study

Although it is generally recognized that milk and dairy products consumption by Malaysians is low, there have been very few research that report about consumption intention towards goat milk among Malaysian consumers (Kamarubahrin, 2019; Lim et al., 2016; Umar et al., 2017). Besides, the knowledge levels, attitude, and practice of goat milk among multicultural Malaysians are also inadequately understood. The aim of this study is to report on the intention towards goat milk consumption among consumers in Klang Valley, Malaysia (Stage 1). The findings will be followed with Stage 2 investigation on the knowledge levels, attitude, and practice of goat milk among multicultural adult Malaysians. Findings from Stage 2 will be used to design nutrition education intervention programme to assess the knowledge, attitude, and practice of goat milk in Stage 3.

The scope of Stage 1 study includes Malaysian adults in Klang Valley which includes Selangor, W.P. Kuala Lumpur and Putrajaya regions that visited public locations such as supermarkets, hypermarkets, education centres and among neighbourhoods. Stage 2 study includes voluntary participants that visited hypermarkets in main cities throughout the different regions in Malaysia such as Northern, Central, Southern, East Coast and Eastern Malaysia. For the intervention study in Stage 3, participants are invited via online such as social media and WhatsApp; and are recruited online. Due to the Movement Control Order in October

to December 2020, a virtual intervention programme in the form of goat milk campaign to raise knowledge, attitude and practice towards goat milk was carried out via online using web-based application. A post intervention survey was done at the end of the eight-weeks intervention to determine the effect of intervention on knowledge, attitude, and practice of goat milk. For all study, only Malaysian adults that understand at least Bahasa Malaysia were included.

1.8 Organization of the Thesis

The current study is comprised of five chapters.

Chapter 1: In this section, the researcher explored the phenomena by giving a brief introduction to the overall study. The chapter also comprises the background of the study, problem statement, researcher questions, objective of the study, followed by the significance of the study and finally the organization of the thesis.

Chapter 2: In this section, the researcher provides the essentials of quantitative findings to the past studies with the related literature relevant to this study, focusing on goat milk consumption and with due importance given to multicultural Malaysian community linking the factors in relation to attitude, subjective norm, and perceived behavioural control. The study also tried into introduces the construct and relevant literature on health consciousness among the Malaysian customers.

Chapter 3: Chapter three discusses the research methodology employed in the present study. Moreover, this chapter discusses the system used in the selection of measurement, sampling procedures use in data collection and data analysis techniques. The study employed PLS SEM and SPSS for data analysis.

Chapter 4: In this section, the researcher provides analysis based on quantitative research analysis and discussion based on the findings of the study.

Chapter 5: Chapter five leads to theoretical, practical and policy implication, suggestion for future research and conclusions based on the findings of the study.