CHAPTER 1

INTRODUCTION

With the rising demand of a healthier lifestyle associated with a rapid and practical ways of eating, there has been a continuous finding for alternative products that can offer both convenience and nutritional balance (Padmashree & Sharma, 2017). Consequently, this led to the introduction of new food product on the market where their sensory and nutritional quality are related with benefits to health. Protein bars are known to stand out among other ready-to-eat food products as they are very handy, portable and convenience. However, most of the existing protein bars that are available in the market still contain a high amount of processed protein isolates (soy protein isolates and hydrolyzed vegetable protein) which are known to show intolerance symptoms of digestive problem, alter metabolic process and spiked up the insulin level (Moss, 2014). Meanwhile, consumers are now constantly looking for a product with a simpler, healthier and more natural ingredient. Therefore, consumers need more concrete evidence in their decision to consume protein bars as a healthier option.

It has been long known that meat is a good source for many nutrients. Lean red meats are considered to be one of the best dietary sources of high quality protein (providing about 25 g/100 g) which plays a pivotal role in helping people meet their essential nutrient needs. The Digestible Indispensable Amino Acid Score (DIAAS) of lean meat is at the value of 1.3 compared to values of 0.4-0.7 for most plant foods (P. G. Williams, 2007). This protein is highly digestible, around 94% compared to the digestibility of 78% in beans and 86% in whole wheat. Furthermore, red meat also contains a considerable amount of iron and zinc which are found to have a higher bioavailability compare to alternative food sources; hence, red meat can enhance the absorption of these minerals (Wyness et al., 2011).

Additionally, there has also been a recognized interest on meat and their products in the market. This is shown by one market study done by Wyatt et al (2017) which demonstrated a phenomenal combined market growth for both bars (sports/nutrition/snacks) and meat snacks, having increased by a total of 169% since 1999, and is continuing to grow at the rate of 5 – 12% on an annual basis. This is consistent with another evidence which shows that dried meat snack sales have soared significantly from 2009 – 2014 at 40% of increment (Schmidt et al., 2014).

In that sense, with a subsequent interest of both meat snacks and healthy bars in the market, the incorporation of meat proteins in the bar formulation acts as the best alternative to provide optimal nutrition made of 100% natural whole food ingredients with unprocessed proteins. Not only that this product reduces the amount of highly processed protein in the everyday diet, it is also a consistent supplier of essential meat proteins to individuals that do not consume meat on regular basis.

This study was conducted with the aim of developing a meat-based protein bar that are shelf-stable, palatable and has an enhanced nutritional value to the human body. Therefore, it can be hypothesized that the combined composition of meat, seeds, and vegetables protein will add function to the processing and nutritional profile of the developed product; hence, producing a value-added protein bar.