

Evaluation of Antioxidative and Antimicrobial Activities of a Prawn Based Dipping Incorporated with Bioactive Fish Protein Hydrolysates from *Pterygoplichthys pardalis*

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Currently, the world is moving towards functional foods instead of traditional nutrient based foods. “PrawRy” is a value-added prawn and dairy based pre-cooked instant powdered food, which can be processed as a dipping, sauce, salad dressing or as a pudding. Due to its raw materials it is indisputably high in nutrition and its functionalities can be promoted by incorporating bioactive natural compounds. In the present study the “PrawRy dipping”, which was made by cooking for 10 minutes with 1:2 ratio of powder mix (Prawn, milk, butter, garlic) and water, was enriched with pre-proved bioactive salt extracted internal organ (except GI tract) protein (protein: NaCl 10% (w/v) =1:4) hydrolysates of *Pterygoplichthys pardalis*. Fish protein hydrolysate (FPH) was prepared followed by incorporation of it in to “PrawRy dipping” at 0, 0.5, 1, 1.5, and 2% (w/w) and kept under refrigerated conditions. The bioactivities were then analyzed at 0, 2, 4 and 7 days of storage. Antioxidative properties were evaluated by TBARS, DPPH scavenging assays and Fe (II) chelating activity. Total plate count was detected to check the microbial growth in the final product. According to the results obtained, significant differences were obtained between treatments against non-treated product ($P<0.05$) in both DPPH scavenging and TBARS assays, Total plate count and in Fe (II) chelating activity assay. Further, significant differences were obtained between days against non-treated product ($P<0.05$) in TBARS assay, Total Plate Count, Fe (II) chelating activity assay while no such difference was demonstrated in DPPH scavenging assay (except in day 0). The highest antioxidative activity and resistance against microbial growth was demonstrated by 2% (w/w) FPH incorporated “PrawRy dipping”. The study concluded that the “PrawRy dipping” can be enriched with antioxidative and antimicrobial properties by incorporating salt extracted 2% (w/w) protein hydrolysates of *P. pardalis* as a value-added functional food.

Keywords: DPPH, TBARS, Fish protein hydrolysates, Functional foods, Chelating

Acknowledgement – This research was funded by the Capital Grant of Uva Wellassa University, Sri Lanka (UWU/R/G/ 2018/39)