

DAFTAR ISI

| | Halaman |
|------------------------------------|---------|
| SAMPUL DALAM..... | i |
| LEMBAR PRASYARAT | ii |
| LEMBAR PERSETUJUAN | iii |
| SURAT PERNYATAAN ORSINALITAS | iv |
| UCAPAN TERIMA KASIH..... | v |
| RINGKASAN..... | viii |
| ABSTRAK..... | xi |
| ABSTRACT..... | xii |
| DAFTAR ISI..... | xiii |
| DAFTAR TABEL..... | xvi |
| DAFTAR GAMBAR | xvii |
| DAFTAR LAMPIRAN..... | xviii |
| DAFTAR SINGKATAN | xix |
| BAB 1 PENDAHULUAN | 1 |
| 1.1 Latar Belakang..... | 1 |
| 1.2 Rumusan Masalah..... | 3 |
| 1.3 Tujuan Penelitian | 4 |
| 1.3.1 Tujuan Umum | 4 |
| 1.3.2 Tujuan Khusus | 4 |
| 1.4 Manfaat Penelitian | 4 |
| 1.4.1 Manfaat Teoritis..... | 4 |
| 1.4.2 Manfaat Praktis | 4 |

| | |
|---|----|
| BAB 2 TINJAUAN PUSTAKA | 5 |
| 2.1 Diet Ketogenik | 5 |
| 2.2 Kanker | 10 |
| 2.3 <i>Insulin-like Growth Factor-1 (IGF-1)</i> | 13 |
| 2.4 Diet Ketogenik dan IGF-1 | 19 |
| BAB 3 KERANGKA KONSEPTUAL DAN HIPOTESIS PENELITIAN..... | 21 |
| 3.1 Kerangka Konseptual Penelitian..... | 21 |
| 3.2 Hipotesis Penelitian | 23 |
| BAB 4 METODE PENELITIAN | 24 |
| 4.1 Jenis dan Rancangan Penelitian | 24 |
| 4.2 Unit Eksperimen, Besar Replikasi, dan Teknik Pengambilan Sampel ... | 24 |
| 4.2.1 Unit Eskperimen | 24 |
| 4.2.2 Besar Replikasi | 25 |
| 4.2.3 Teknik Pengambilan Sampel | 26 |
| 4.3 Variabel Penelitian..... | 26 |
| 4.3.1 Klasifikasi Variabel | 26 |
| 4.3.2 Definisi Operasional Penelitian | 26 |
| 4.4 Bahan Penelitian | 28 |
| 4.5 Instrumen Penelitian | 28 |
| 4.6 Lokasi dan Waktu Penelitian | 28 |
| 4.7 Prosedur Penelitian | 29 |
| 4.7.1 Persiapan Bahan dan Instrumen Penelitian..... | 29 |
| 4.7.2 Pembagian Kelompok Hewan Coba | 29 |
| 4.7.3 Pemberian Diet..... | 29 |
| 4.7.4 Pengukuran Kadar IGF-1 | 29 |

| | | |
|---|---|----|
| 4.8 | Kerangka Operasional Penelitian..... | 33 |
| 4.9 | Cara Pengolahan dan Analisis Data..... | 34 |
| 4.10 | Aspek Etik Penelitian..... | 34 |
| BAB 5 HASIL DAN ANALISIS PENELITIAN | | 36 |
| 5.1 | Karakteristik Subjek Penelitian..... | 36 |
| 5.2 | Analisis Hasil Penelitian..... | 36 |
| 5.2.1 | Berat Badan..... | 36 |
| 5.2.2 | Kadar IGF-1 Serum..... | 39 |
| BAB 6 PEMBAHASAN..... | | 40 |
| 6.1 | Pengaruh Diet Ketogenik Jangka Panjang terhadap Berat Badan | 41 |
| 6.2 | Pengaruh Diet Ketogenik Jangka Panjang terhadap Kadar IGF-1 Serum..... | 43 |
| 6.3 | Keterbatasan Penelitian..... | 46 |
| BAB 7 PENUTUP | | 47 |
| 7.1 | Kesimpulan | 47 |
| 7.2 | Saran | 47 |
| DAFTAR PUSTAKA | | 48 |
| LAMPIRAN..... | | 55 |

DAFTAR TABEL

| | Halaman |
|---|---------|
| Tabel 4.1 Definisi Operasional Penelitian | 26 |
| Tabel 5.1 Karakteristik Subjek Penelitian Sebelum Perlakuan Diet..... | 36 |
| Tabel 5.2 Hasil Berat Badan Sebelum Perlakuan Diet | 36 |
| Tabel 5.3 Hasil Berat Badan Setelah Perlakuan Diet | 37 |
| Tabel 5.4 Hasil Perubahan (Δ) Berat Badan Setelah Perlakuan Diet | 38 |
| Tabel 5.5 Hasil Kadar IGF-1 Serum..... | 39 |

DAFTAR GAMBAR

| | Halaman |
|---|---------|
| Gambar 2.1 Jalur Pembentukan Badan Keton dari Asetil-CoA (Paoli, 2014)..... | 6 |
| Gambar 3.1 Kerangka Konseptual Penelitian | 21 |
| Gambar 4.1 Rancangan Penelitian | 24 |
| Gambar 4.2 Kerangka Operasional Penelitian..... | 33 |

DAFTAR LAMPIRAN

| | Halaman |
|---|---------|
| Lampiran 1. Perhitungan Besar Replikasi | 55 |
| Lampiran 2. Jadwal Kegiatan | 57 |
| Lampiran 3. Sertifikat Kelaikan Etik | 58 |
| Lampiran 4. Analisis Pakan | 59 |
| Lampiran 5. Analisis Statistik Hasil Penelitian | 60 |
| Lampiran 6. Dokumentasi Penelitian..... | 66 |

DAFTAR SINGKATAN

| | |
|----------------|--|
| ATP | : <i>Adenosine triphosphate</i> |
| BHB | : β -hidroksibutirat |
| CCK | : <i>Cholecystokinin</i> |
| DM | : Diabetes mellitus |
| EGF | : <i>Epithelial growth factor</i> |
| ELISA | : <i>Enzyme-linked immunosorbent assay</i> |
| GH | : <i>Growth hormone</i> |
| GHRH | : <i>Growth hormone releasing hormone</i> |
| GLOBOCAN | : <i>Global Burden of Cancer Study</i> |
| HDL | : <i>High density lipoprotein</i> |
| HIFs | : <i>Hypoxiainducible factors</i> |
| HRP | : <i>Horseradish Peroxidase</i> |
| IGF-1 | : <i>Insulin-like growth factor-1</i> |
| IGF-1R | : <i>Insulin-like growth factor-1 receptor</i> |
| IGFBPs | : <i>Insulin-like growth factor binding proteins</i> |
| IL-6 | : Interleukin-6 |
| IL-8 | : Interleukin-8 |
| KEPK | : Komite Etik Penelitian Kesehatan |
| MAPK | : <i>Mitogen-activated protein kinase</i> |
| NF- κ B | : <i>Nuclear factor-κB</i> |
| PI3K | : <i>Phosphatidylinositol-3 kinase</i> |
| RISKESDAS | : Riset Kesehatan Dasar |
| ROS | : <i>Reactive oxygen species</i> |

TNF- α : *Tumor necrosis factor- α*
VEGFs : *Vascular endothelial growth factors*
WHO : *World Health Organization*