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LAMPIRAN

Lampiran 1. Rekomendasi Etik I



KEMENTERIAN PENDIDIKAN, KEBUDAYAAN, RISET DAN TEKNOLOGI
UNIVERSITAS MATARAM
FAKULTAS KEDOKTERAN
KOMISI ETIK PENELITIAN KESEHATAN
Jalan Pendidikan No.37, Telp. 640874 Fax. 641717 Mataram 83125 - NTB

SURAT KEPUTUSAN PERSETUJUAN ETIK

No: 286/UN18.F7/ETIK/2021

Tanggal: 20 September 2021

Dengan ini menyatakan bahwa protokol dan dokumen yang berhubungan dengan protokol berikut ini telah mendapatkan persetujuan etik :

No. Protokol	UNRAM1700821	Sponsor : PNBP unram
Judul Penelitian	Analisis Kecukupan Diet Antiosida pada Ibu Hamil di Daerah Pertambangan Emas Skala Kecil pada Masa Pandemi	
Ketua Peneliti	dr. Ardiana Ekawanti, M.Kes.	
Anggota Peneliti	Prof. Dr. dr. Suryani At'ad, M.Sc., Sp.GK (K), Prof. dr. Rosdiana Natzir, Ph.D, Sp.Biok., Dr. dr. Husaini Umar, Sp.PD, K-EMD, dr. Deasy Irawati, M.Sc., PhD, dr. Ina Arum Lestariini, Sp.PK, Dr.dr. Lima Nurbaiti, M.Kes; dr. Rifama Cholidah, M.Sc.	
Tempat Penelitian	Wilayah Kerja PUkesmas Kecamatan Sekotong	
Masa Berlaku	20 September 2021 – 20 September 2022	
Jenis Review	<input type="checkbox"/> Exempted <input checked="" type="checkbox"/> Expedited <input type="checkbox"/> Fullboard	
Ketua Komisi Etik Penelitian Kesehatan FK Unram	Nama : Dr. dr. Herpan Syafii Harahap, M.Biomed., Sp.S	Tanda tangan,  
Wakil Ketua Komisi Etik Penelitian Kesehatan FK Unram	Nama : dr. Ario Danianto, Sp.OG	Tanda tangan,  

Catatan :

- Peneliti wajib menyerahkan hasil penelitian selambat – lambatnya 1 (satu) bulan setelah selesai penelitian kepada Komisi Etik Penelitian Kesehatan Fakultas Kedokteran Unram. Apabila laporan penelitian tidak diserahkan, maka Komisi Etik berhak untuk membatalkan persetujuan yang diberikan.
- Apabila pelaksanaan penelitian tidak sesuai dengan usulan kegiatan, Komisi Etik tidak bertanggung jawab terhadap kelayakan etik penelitian tersebut.
- Apabila ada perubahan prosedur/kegiatan penelitian, mohon agar mengusulkan kembali proposal kelayakan etik kepada Komisi Etik.
- Penyalahgunaan terhadap Surat Keputusan Persetujuan Telaah Etik menjadi tanggung jawab peneliti.

Rekomendasi etik II



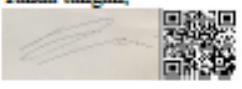
KEMENTERIAN PENDIDIKAN, KEBUDAYAAN, RISET DAN TEKNOLOGI
UNIVERSITAS MATARAM
FAKULTAS KEDOKTERAN
KOMISI ETIK PENELITIAN KESEHATAN
Jalan Pendidikan No.37, Telp. 640874 Fax. 641717 Mataram 83125 - NTB

SURAT KEPUTUSAN PERSETUJUAN ETIK

No: 302/UN18.F7/ETIK/2022

Tanggal: 14 November 2022

Dengan ini menyatakan bahwa protokol dan dokumen yang berhubungan dengan protokol berikut ini telah mendapatkan persetujuan etik :

No. Protokol	UNRAM1561122	Sponsor : Mandiri
Judul Penelitian	Pengaruh Paparan Merkuri dari Pertambangan Emas Skala Kecil dan Defisiensi Iodium terhadap Ekspresi mRNA Gen Foxe 1 dan Fungsi Tiroid Neonatus	
Ketua Peneliti	dr. Ardiana Ekawanti, M.Kes	
Anggota Peneliti	Prof. Dr. dr. Suryani As'ad, M.Sc. Sp.GK (K); Prof. dr. Rosdiana Natzir, Ph.D, Sp.Biok; Dr.dr. Husaini Umar, Sp.PD.K-EMD	
Tempat Penelitian	Kecamatan Sekotong	
Masa Berlaku	14 November 2022 – 14 November 2023	
Jenis Review	<input checked="" type="checkbox"/> Exempted <input type="checkbox"/> Expedited <input type="checkbox"/> Fullboard	
Ketua Komisi Etik Penelitian Kesehatan FK Unram	Nama : dr. Ario Damianto, Sp.OG	Tanda tangan,  
Wakil Ketua Komisi Etik Penelitian Kesehatan FK Unram	Nama : dr. Linda Silvana Sari, M.Biomed., Sp.A	Tanda tangan,  

Catatan :

- Peneliti wajib menyerahkan hasil penelitian selambat – lambatnya 1 (satu) bulan setelah selesai penelitian kepada Komisi Etik Penelitian Kesehatan Fakultas Kedokteran Unram. Apabila laporan penelitian tidak diserahkan, maka Komisi Etik berhak untuk membatalkan persetujuan yang diberikan.
- Apabila pelaksanaan penelitian tidak sesuai dengan usulan kegiatan, Komisi Etik tidak bertanggung jawab terhadap kelayakan etik penelitian tersebut.
- Apabila ada perubahan prosedur/kegiatan penelitian, mohon agar mengusulkan kembali proposal kelayakan etik kepada Komisi Etik.
- Penyalahgunaan terhadap Surat Keputusan Persetujuan Telaah Etik menjadi tanggung jawab peneliti.

Lampiran 2. Penjelasan Penelitian Kepada Peserta

L2.1. Penjelasan kepada peserta I

ANALISIS KECUKUPAN ASUPAN DIET ANTIOKSIDAN IBU HAMIL DI DAERAH PERTAMBANGAN EMAS SKALA KECIL PADA MASA PANDEMI

PENJELASAN UNTUK PARTISIPAN PENELITIAN

Penelitian ini telah disetujui oleh Komite Etik Fakultas Kedokteran Universitas Mataram dengan nomor 286/UN18.F7/ETIK/2021

Yth.Ibu di Daerah Pertambangan Emas Skala Kecil

Kami, Tim Peneliti dari Universitas Mataram, mengundang Ibu untuk berpartisipasi dengan sukarela dalam penelitian kami yang berjudul “Analisis Kecukupan Asupan Diet Antioksidan Ibu Hamil Di Daerah Pertambangan Emas Skala Kecil Pada Masa Pandemi.”

Tujuan penelitian

Penelitian ini bertujuan untuk mengkaji dan menganalisis kesiapan ibu dalam menghadapi risiko pajanan merkuri dan risiko pajanan virus dengan mengetahui jumlah asupan antioksidan dari makanan sehari-hari.

Manfaat bagi partisipan

Ibu dapat mengetahui apakah asupan gizi dari makanan sehari-hari tercukupi atau tidak, sehingga dapat mengatur pola makan dan menu keluarga selanjutnya. Ibu juga mengetahui kadar merkuri yang ada di dalam tali pusat dengan kemungkinan dipindahkan ke bayinya.

Ibu akan mendapatkan serangkaian pemeriksaan mulai dari wawancara dan pemeriksaan fisik dan pemeriksaan laboratorium. Pemeriksaan yang disebutkan di atas dilakukan dengan Cuma-Cuma dan tidak dipungut biaya apapun. Pemeriksaan tidak menimbulkan risiko terhadap kesehatan partisipan. .Pada akhir penelitian

partisipan akan mendapatkan kompensasi kehilangan waktu berupa souvenir dari peneliti

Prosedur Pemeriksaan

Seluruh pemeriksaan ini memerlukan waktu 2 kali pertemuan dengan masing-masing 1 (satu) jam. Pada pertemuan pertama, setiap partisipan akan dilakukan wawancara recall 24 jam dan pemeriksaan fisik yang dilakukan oleh enumerator gizi dan pemeriksaan fisik oleh bidan . Sedang pada pertemuan kedua dilakukan recall 24 jam yang kedua. Ibu akan diwawancara gizi oleh enumerator gizi selama kurang lebih 30 menit dan selanjutnya dilakukan penimbangan berat badan dan pengukuran lingkar lengan selama 10 menit oleh bidan. Ibu juga diminta untuk berkemih dan mengumpulkan air seni sekitar 10-15 ml. Pada saat melahirkan, darah akan diambil dari tali pusat oleh bidan sebanyak 10 ml . Pengambilan sampel air seni dan darah tali pusat tidak memberikan risiko terhadap kesehatan ibu dan bayi serta tidak menimbulkan rasa sakit pada ibu maupun bayi.

Apabila selama proses pengambilan data penelitian ini, ibu merasa kurang nyaman, ibu dapat mengusulkan alternative yang dirasa paling sesuai ataupun mengundurkan diri dari penelitian ini. Ibu berhak apabila sewaktu-waktu menghentikan partisipasi dalam penelitian ini dengan memberitahukan sebelumnya ke peneliti. Penghentian partisipasi tidak akan menimbulkan sanksi apapun.

Kerahasiaan

Partisipasi Ibu bersifat sukarela dan informasi yang Ibu berikan bersifat rahasia dan hanya digunakan untuk keperluan penelitian ini. Hasil pemeriksaan hanya diketahui oleh partisipan, tim pemeriksa kesehatan dan peneliti. Identitas dan data diri partisipan akan dirahasiakan dalam laporan penelitian.

Informasi lebih lanjut

Apabila ada pertanyaan, keluhan atau masalah, partisipan dapat menghubungi ketua tim peneliti atas nama Ardiana Ekawanti pada nomor 081907070322.

Hormat kami

Peneliti,

Ardiana Ekawanti

L2.2. Penjelasan Untuk Partisipan Penelitian II

Pengaruh Pajanan Merkuri Dari Pertambangan Emas Skala Kecil Dan Defisiensi Yodium Dengan mRNA Gen FoxE1 Dan Fungsi Tiroid Bayi

PENJELASAN UNTUK PARTISIPAN PENELITIAN

Penelitian ini telah disetujui oleh Komite Etik Fakultas Kedokteran Universitas Mataram dengan nomor 286/UN18.F7/ETIK/2021 .

Yth. Ibu di Kecamatan Sekotong

Saya, Ardiana Ekawanti dari Fakultas Kedokteran Universitas Mataram dan mahasiswa Fakultas Kedokteran Universitas Hasanuddin, mengundang Anda untuk berpartisipasi dengan sukarela dalam penelitian kami yang berjudul “Pengaruh Pajanan Merkuri Dari Pertambangan Emas Skala Kecil Dan Defisiensi Yodium Dengan mRNA Gen FoxE1 Dan Fungsi Tiroid Bayi”. Dalam penyelenggaran penelitian ini, kami bekerjasama dengan pihak Puskesmas dan rumah sakit Universitas Mataram.

Tujuan penelitian

Penelitian ini bertujuan untuk mengetahui perubahan genetik dan fungsi organ tubuh terutama kelenjar gondok karena pajanan merkuri dari limbah pertambangan emas skala kecil.

Manfaat bagi partisipan

Partisipan dapat mengetahui status asupan yodium, perubahan genetic dan fungsi tiroid yang terjadi pada bayi ibu akibat pajanan merkuri dari daerah pertambangan. Bagi pemegang program penelitian ini memberikan manfaat untuk intervensi program gizi dan program kesehatan lingkungan di masyarakat. Pemeriksaan yang disebutkan di atas dilakukan dengan cuma-cuma dan tidak dipungut biaya apapun.

Prosedur Pemeriksaan

Seluruh rangkaian pemeriksaan ini memerlukan waktu 2 kali pertemuan. Pada pertemuan pertama, ibu akan diambil urinnya pada saat hamil dan wawancara untuk mengetahui riwayat asupan yodium, riwayat kelainan gondok dan pengobatannya dan riwayat pajanan merkuri. Sedang pada pertemuan kedua pengambilan sampel darah bayi dari pembuluh darah di tangan (siku) sebanyak 3-4 ml dan pengukuran antropometri bayi. Seluruh proses pengambilan data tidak menimbulkan rasa sakit dan risiko bagi ibu, pengambilan darah pada bayi menimbulkan rasa sakit dan berisiko untuk mengalami infeksi. Peneliti berusaha melakukannya dengan senyaman mungkin dan dengan risiko yang minimal dengan dilakukan oleh phlebotomist (teknisi) yang bersertifikat.

Apabila selama proses pengambilan data penelitian ini, ibu merasa kurang nyaman, ibu dapat mengusulkan alternative yang dirasa paling sesuai ataupun mengundurkan diri dari penelitian ini. Ibu berhak apabila sewaktu-

waktu menghentikan partisipasi dalam penelitian ini dengan memberitahukan sebelumnya ke peneliti. Penghentian partisipasi tidak akan menimbulkan sanksi apapun.

Kerahasiaan

Partisipasi Ibu bersifat sukarela dan informasi yang Ibu berikan bersifat rahasia dan hanya digunakan untuk keperluan penelitian ini. Hasil pemeriksaan hanya diketahui oleh Ibu, tim pemeriksa kesehatan dan peneliti. Identitas dan data diri ibu akan dirahasiakan dalam laporan penelitian maupun publikasi.

Informasi lebih lanjut

Apabila ada pertanyaan, keluhan atau masalah, ibu dapat menghubungi peneliti atas nama dr. Ardiana Ekawanti, M. Kes (nomor HP 081907070322).

Hormat kami

Peneliti

L2.3. Persetujuan Partisipasi

LEMBAR PERSETUJUAN BERPARTISIPASI DALAM PENELITIAN

Saya yang bertanda tangan dibawah ini,

Nama lengkap :

Alamat :

Nomor telepon :

Menyatakan bahwa:

- Saya telah membaca lembar penjelasan untuk partisipan penelitian dan mendapat keterangan yang lengkap dan jelas tentang prosedur penelitian yang berjudul “Pengaruh Pajanan Merkuri Dari Pertambangan Emas Skala Kecil Dan Defisiensi Yodium Dengan mRNA Gen FoxE1 Dan Fungsi Tiroid Bayi”.
- Saya dengan sukarela setuju tanpa dipaksa untuk berpartisipasi dalam penelitian ini dan sanggup mematuhi semua peraturan yang berlaku bagi partisipan.
- Saya sepenuhnya mengerti potensial risiko atas prosedur penelitian ini dan saya yakin bahwa prosedur tersebut adalah aman.
- Saya telah diyakinkan bahwa kerahasiaan data diri dan kesehatan saya akan dijaga.
- Saya mengerti bahwa partisipasi saya bersifat sukarela dan saya dapat mengundurkan diri sewaktu-waktu dengan menginformasikan terlebih dahulu kepada tim peneliti.
- Saya ijinkan hasil dari penelitian ini untuk dipergunakan pada penelitian sejenis.

Mataram , _____ 2023

Saksi,

Yang membuat pernyataan,

(.....)

(.....)

Lampiran 3. Hasil semikuantitatif FFQ

No.	ID	Energi (kkal)	Protein (gr)	Lemak (gr)	Karbohidrat (gr)	Vit. A (μg)	Vit. D (μg)	Vit. E (mg)	Vit. C (mg)	Iron (mg)	Mangan (mg)	Iodine (μg)
1	TB 1	546.6	18.5	5.8	103.2	392.9	0.8	2.1	26.9	2.3	2.9	19.5
2	TB 2	664	23.7	7.2	123.1	819.6	1.3	3	101.1	3.1	3	25
3	TB 3	967.6	46.1	19.8	148.3	650.6	2.3	3.7	65.7	5	3.5	67
4	CM 1	992.9	30.6	10.8	189.9	1512.3	1.4	4.8	139.6	4.9	3.3	38.7
5	CM 2	381	24.2	10.3	47.1	359.6	1.4	2.4	46.7	2.4	1.4	33.2
6	CM 3	860.1	37	12.7	146.7	594.3	1.9	3.2	61.5	4.5	3.5	34.4
7	CM 4	365.1	18.7	5.6	59	268.9	1.1	1.4	44.8	2.1	1.9	25.4
8	CM 5	693.6	30.7	10.3	117	737.5	1	2.9	96.9	4	2.4	40.7
9	CM 5	671.1	25.6	11.7	113.6	873.9	2.3	3.4	85.6	3.9	2.9	42.1
10	CM 6	876.8	27.6	12.3	160.8	1513.6	1.6	4.7	167.4	4.7	2.7	21.2
11	CM 7	461.6	15.4	4	89.9	225.8	0.3	0.8	12.1	1.3	2.2	6.7
12	CM 8	592.2	20.7	6	112.3	371.4	1.5	1.7	103.7	2.7	2.9	26
13	BM 1	739	27	12.1	129	1134.5	2	4.5	207.2	4.2	2.9	51.1
14	CM 9	983.2	37.8	16.9	167.6	1595.7	1.9	5.4	231.2	4.5	2.8	37.7
15	BM 2	747.6	24.8	10.5	137.7	946.6	2	4.1	80.6	3.9	3.6	28.3
16	CM 10	193.1	6.7	5.6	28.4	170.3	1	0.9	17	0.9	0.7	7.7
17	TB 4	542.7	16.8	8.2	99.4	531.4	0.2	3	77.7	3	2.4	7.7
18	TB 5	392.2	12.2	2.2	79.3	489.1	0.7	1.6	64.4	1.5	2.1	11.7
19	TB 6	549.4	19.2	10.2	94.1	525.7	0.7	3	43.9	2.5	2.3	41.2
20	TB 7	719.6	30.3	8.2	128.3	685.9	1.2	3.1	65.5	3.5	3.1	52.4
21	ST 1	773	27.2	9.3	143.3	277.3	1.9	1.8	22.9	2.9	4	38.8
22	ST 2	1095.8	52.7	32.2	147.2	641.2	6.9	8.3	97.2	6.8	4.9	75.5
23	CM 11	639	24.3	11.5	108.6	180.2	0.9	2.3	28.6	2.7	3.2	23.1

No.	ID	Energi (kkal)	Protein (gr)	Lemak (gr)	Karbohidrat (gr)	Vit. A (µg)	Vit. D (µg)	Vit. E (mg)	Vit. C (mg)	Iron (mg)	Mangan (mg)	Iodine (µg)
24	CM 12	1085.2	38.2	13.5	199.3	1828.8	2	5.6	228.6	5.7	3	47.2
25	CM 13	303.1	8	2.7	60.4	308	0.4	1	33.5	1.2	1.4	8.5
26	CM 14	405.5	13.2	3.6	78.6	91.1	0.8	0.8	11.6	1.5	2.2	12.8
27	BM 3	564.2	17.9	5.9	107.9	446.1	1	1.9	21.1	2.3	2.8	14.1
28	BM 4	555	18	6.4	104.6	815.3	1	2.5	103.2	2.7	2.7	16.1
29	BM 5	870.3	32.9	20.6	135.7	1263.7	1.8	5.8	107.2	5.2	2.7	36.8
30	BM 6	614.7	20.9	9.5	109	995.9	1.4	3.3	90	3.1	2.4	24.2
31	BM 7	740.9	31.6	12.3	123.7	450.1	0.8	2.8	32.1	3.4	3.5	16.1
32	ST 3	322.9	14.6	2.6	59	236.6	0.1	1.1	24.4	1.5	1.4	12.9
33	ST 4	739.1	28.3	9	133.7	426.2	0.5	2.1	46.7	2.8	3.6	34.7
34	BM 8	565.2	16.7	10.5	99.4	324.8	0.3	1.3	43	1.8	2.8	15.1
35	CM 15	329	7.3	4.1	64.5	660	0.2	2.1	62.5	1.5	1.5	4.3
36	BM 9	644.1	19.3	9	119.2	1039.4	1.8	4.6	65.1	3.4	2.4	35.5
37	CM 16	399	15.6	4.8	71.8	284.6	0.5	1.2	30.9	2.1	1.6	13.7
38	TB 8	528.1	20.5	7.5	93.1	187.5	0.9	1.3	16.5	1.9	2.6	12.3
39	TB 9	1688.2	63.3	29	288.6	2448.4	5.6	11	223.4	11.4	6	72
40	TB 10	352.1	16.8	10.4	47.1	352.4	1.7	2	14.4	1.9	1.3	16.8
41	TB 11	943.4	36.7	19.3	155	1133.2	2.3	5.4	113.8	5.2	3.5	24.4
42	TB 12	703.2	24.2	8	132.7	698.4	0.9	2.3	66.6	3.2	3	17.6
43	TB 13	416.3	16.8	7.2	69.9	360	0.6	1.9	32.8	2	1.6	24.7
44	TB 14	767.5	39.8	16	113.3	355.7	1.8	2.1	43.9	5.1	2.5	32.5
45	BM 10	1254	56.9	35	174.5	527.9	2.1	7.2	76.5	7.2	4.6	70.2

No.	ID	Energi (kkal)	Protein (gr)	Lemak (gr)	Karbohidrat (gr)	Vit. A (µg)	Vit. D (µg)	Vit. E (mg)	Vit. C (mg)	Iron (mg)	Mangan (mg)	Iodine (µg)
46	BM 11	1171.2	43.5	17.1	209.2	1560.4	2.3	6.3	99.3	6.3	5.1	47.6
47	BM 12	1133.2	41	15.7	204.5	591.7	0.3	4.2	229	5.4	4.1	48.1
48	BM 13	474.5	18.1	5.2	87.4	233.2	1.2	1.7	29.2	2.4	1.6	26.3
49	BM 14	997.3	50	22.5	146.8	453.4	1.8	2.7	50.7	5.4	3.6	34
50	BM 15	786.6	35.4	15.5	123.7	295.6	2.4	1.9	47.2	4.3	3	42
51	ST 5	581.6	32.5	14.1	79.8	287.4	2.6	2.4	52.1	3.5	2.4	35
52	ST 6	686.2	24.1	6.1	131.1	416.7	2.5	1.9	36.7	2.8	3.5	24.2
53	CM 17	654.4	24.5	9.9	114.3	428.2	1.9	2.4	52.2	3.1	2.9	26.7
54	CM 18	477.6	14.9	3.2	95.8	247.9	0.7	0.9	48.1	1.9	2.8	19.9
55	TB 15	783.9	37	12.2	131.3	383.7	1.6	1.9	54.3	4.2	3.7	32.3
56	TB 16	785.6	36.5	17.7	118.6	318.2	1.8	2.3	23.3	3.3	3.1	31.1
57	TB 17	566.1	19	6.4	106.1	383.3	0.5	1.5	65.1	2.7	2.1	25.4
58	TB 18	1663.1	104.4	37.1	221.9	1564.3	3.8	11.6	210.5	11.9	4.5	174.7
59	TB 19	1109.3	33.7	18.5	197.1	648.4	2.3	3.9	120.2	6.6	4.1	23.8
60	TB 20	1629.8	86.2	35.7	233	1236.4	3.1	9.9	270.6	10.7	4.7	141
61	TB 21	985.5	29.2	10.7	193.7	1375.5	1.2	5.1	213.4	5.5	3.3	41.8
62	ST 7	1395.3	61.6	30.9	212.9	1780	4.9	6.6	188.3	8.1	3.7	83.1
63	ST 8	1772.7	113.8	56.7	199.3	1440.7	3.9	8.3	143.4	10.6	5.5	102.6
64	BM 16	1107.3	43.3	14.3	194.8	1406.8	1.5	5.3	273.3	7	4.1	24.5
65	CM 19	731.4	35.5	10.7	121.5	878.8	2	4.2	35.3	3.7	3.5	26.5

No.	ID	Energi (kkal)	Protein (gr)	Lemak (gr)	Karbohidrat (gr)	Vit. A (µg)	Vit. D (µg)	Vit. E (mg)	Vit. C (mg)	Iron (mg)	Mangan (mg)	Iodine (µg)
66	CM 20	980.6	57.2	24.6	130.5	731.4	3.1	5.1	73	5.3	3.3	21.6
67	ST 9	1180.1	76.7	19.9	169.5	556.9	2.6	4.9	202.7	6.2	3.5	172.4
68	ST 10	1237.1	58.7	21.8	197.7	1427.8	2.7	6.3	241.2	8.7	4.5	36.5
69	ST 11	1165.9	75.7	24	158.6	2036.8	2.3	7.9	119.4	8.3	3.7	19.3
70	CM 20	2134.3	98.9	38.8	340	2085.7	5.4	11.1	365.8	13.8	5.9	120.6
71	ST 12	1346.8	81.2	20.1	207.4	1544.8	1.2	4.8	115.2	5.9	4.2	13.8
72	CM 21	1492.1	52.3	20.1	269.5	2346.9	2.7	8.2	372.4	9.2	3.3	94.9
73	CM 22	844.9	33.7	12.1	147.1	396.6	2.8	2.1	109.9	4.9	3.6	66.4
74	CM 23	1289.8	55.7	26.2	206.2	1320	1.8	5.6	304	6.6	2.3	76.9
75	CM 24	1206.7	80	25	161	1206.7	3.3	6.3	154.6	6	3.4	185
76	ST 13	952.8	47.5	16	152	737.6	2.2	5.6	114.6	5.5	3.4	120.2
77	BM 17	574.3	27.1	7.5	96.9	541.9	0.8	3.4	106.5	3.7	2.5	75.1
78	BM 18	596.8	32.5	12.8	85	568	0.3	2.5	127.7	3.8	1.8	50.6
79	ST 14	1412.1	61.7	29.1	221	2748.4	2.9	11	338.9	10.8	4	79.4
80	BM 19	1448.7	66.4	28.6	226.6	602.2	3.2	4.9	150.2	7.7	4.5	81.7
81	BM 20	1182.3	53.4	20	192.3	1389.9	1.5	5.7	160.9	7.3	3.9	51.8
82	BM 21	1710.3	91.2	36.7	249.3	1501.6	2	8.3	253.8	10.3	4.8	73.9
83	TB 22	1323.3	56.1	26.8	211.8	1365.1	5.4	7.2	280.2	8.8	4.7	64
84	TB 23	1153.9	55.2	29.4	164.2	648.2	5.9	5.3	103.3	6.9	3.4	68.4

No.	ID	Energi (kkal)	Protein (gr)	Lemak (gr)	Karbohidrat (gr)	Vit. A (µg)	Vit. D (µg)	Vit. E (mg)	Vit. C (mg)	Iron (mg)	Mangan (mg)	Iodine (µg)
85	ST 15	2629.6	137.1	47.1	402.2	1486.4	3.9	7.2	242.5	15.5	6.2	88.7
86	BM 22	1692.5	79.2	49.5	231.1	905.2	5.5	6.1	107.4	9.7	4.7	70
87	BM 23	1602.5	72.8	31.9	249.6	1855.5	4.2	8.2	222.5	10.3	5.8	82
88	ST 16	1819.3	76.4	49.8	261.3	1152.2	4.4	6.4	130.9	13.4	4.8	53.6
89	BM 24	1233.9	53.3	22.9	201	737.5	2.2	4.4	127.1	6.4	3.5	68.4
90	BM 25	1084.1	50.6	11.9	185.6	1306.7	1.5	6.5	271.8	8.4	3.7	111.6
91	BM 26	993.3	46.7	20.6	153.9	1618.5	2.8	6.1	129.2	7.2	2.9	56.2
92	ST 17	721.2	26.9	10.7	126.2	664.4	1.7	3	54	3.9	2.8	37.9
93	BM 27	1704.6	70.2	43.3	254.3	2233	6.6	11.6	263.5	11	5.6	126.4
94	BM 28	1942	101.5	58	248.7	1952.7	5.6	9	252.6	12.1	3.7	49.3
95	BM 29	951.7	51.5	13	153.9	726.5	1.8	3.3	151.1	6.7	3.8	30.2
96	ST 18	1294.6	58.2	22.6	209.5	1358.2	2	5.5	173.8	9.6	3.4	58.1
97	ST 19	1696.6	99.2	32.6	242.9	1121.2	8.8	12.1	297.7	13	3.9	209.5
98	BM 30	723.3	43.9	14.2	101.9	757.3	1.3	4.6	86.7	5	2.4	69.2
99	BM 31	1476.3	56.9	24	254.4	1331.5	4.3	6.4	184.8	8.2	4.1	94.9
100	ST 20	583.3	26	13.4	89.5	361.5	3.4	3.2	48.9	3.7	3.7	48.8
101	BM 32	1155.3	43.5	21.9	193.1	677.9	2.5	4.8	198.7	6.1	3.7	49.4
102	ST 21	708.2	45.3	20.1	83.8	347.1	2.8	3.2	46.3	4.7	2.1	51.4
103	BM 33	1059.4	53.5	18.7	168	1227.3	5.3	5.6	58	5.5	3.6	101.9

No.	ID	Energi (kkal)	Protein (gr)	Lemak (gr)	Karbohidrat (gr)	Vit. A (µg)	Vit. D (µg)	Vit. E (mg)	Vit. C (mg)	Iron (mg)	Mangan (mg)	Iodine (µg)
104	BM 34	1173.4	48.4	22.8	189.5	1859.5	5.2	6.9	177	7.7	3.8	72.1
105	ST 22	852.5	30.8	15.3	144.7	1072.1	2.3	5.1	88.7	5.5	3.1	57.4
106	CM 25	994.7	35.7	23.6	157.4	966.6	1.8	3.7	165.7	5.2	2	35.9
107	ST 23	958.6	33.6	11.2	175.7	1443.1	2.6	5.6	181.8	5.9	4.1	60.8
108	CM 26	1593	53.2	33.2	263	1495.4	5.1	7.7	254.2	8.7	5.4	135.4
109	BM 35	853.1	25.1	8.5	165.4	1429	0.2	4.1	170.5	4.6	3.3	7.3
110	BM 36	1265.5	60.3	15.3	216.5	1017.8	2.5	5.9	215.5	7.3	3.9	100.9
111	TB 24	1026.5	42.9	15.6	174.6	593.6	4.2	3.9	71.8	5.1	4.4	63.1
112	BM 37	1960.3	77	26.7	342.7	2769.7	3.8	10.4	361.5	12	6.6	105.1
113	BM 38	1229.2	68.9	32.6	161.5	742	2.3	4.4	106.6	5.4	3.5	88.8
114	CM 27	932.4	40.4	14.6	155.9	307.3	4	2.4	69.2	5	3.5	52
115	ST 24	1031	59.6	23.9	141.1	279.6	3.3	3.8	31.1	6	3.4	60.9
116	ST 25	1217.6	83.1	30.6	148.7	1172.6	6.9	8.2	102.5	8.5	3.4	213.4
117	BM 39	720.2	28.7	7.5	132.1	446.5	2	2.7	57.1	3.5	3	55.2
118	TB 24	1518.2	75.6	28.3	232.4	1595.7	3.9	8.5	231.4	10.3	4.9	66.8
119	CM 28	696.1	33.7	18.2	96.6	859.8	3.9	4.1	114.1	4.5	1.9	72.1
120	BM 40	2032.8	85.8	29.5	349	709.8	4.8	5.4	75	9.4	8.8	50.1
121	BM 41	693.9	20.2	6.7	136	1045.9	0.4	3.5	154.9	3.7	3.1	7.1

No.	ID	Energi (kkal)	Protein (gr)	Lemak (gr)	Karbohidrat (gr)	Vit. A (µg)	Vit. D (µg)	Vit. E (mg)	Vit. C (mg)	Iron (mg)	Mangan (mg)	Iodine (µg)
122	TB 25	1279.6	67.7	32.9	174.5	584.2	2.4	4.1	90.9	6.4	4.4	73.4
123	TB 26	1139.6	37.7	12	214.8	1136.5	3.2	4.6	144.4	7.3	4.6	40.6
124	ST 26	2351.1	122.9	47.5	351	2007.1	6.2	10.4	276.6	14.8	5.8	145
125	BM 42	932.8	28.4	10.5	177.1	518	2.1	3	103.2	4.9	4.3	52
126	BM 43	1643.1	78.4	31.3	256.1	2048.8	5.7	9.9	137.7	9.9	5	149
127	BM 44	1921.7	143.4	58.2	202.5	1799	5.1	14	126.2	12.7	5.1	164.2
128	BM 45	1002.1	32.5	15.6	178.7	2162.1	1.6	8.1	152.4	5.7	4.3	51.4
129	BM 46	1771.6	74.9	33.6	293.1	2592.4	3	10.9	247.8	11.3	5.6	96.7
130	BM 47	990.1	59	27.7	124.1	932.2	3.6	5.4	76.9	6.8	2.2	87.7
131	ST 27	1378.1	47.3	28.5	227.5	1086	3.7	4.8	169.1	7.2	4.3	58.1
132	TB 27	1227	37.9	16.2	227.4	1183.8	1.3	4.6	231.6	6.7	5	23.3
133	BM 48	1035.7	38.7	20.2	171.9	502.4	2.1	2.3	64.1	4.8	3.3	50.5
134	BM 49	1097.6	65.6	18.6	161.6	631	3.8	3.7	135.7	6.5	3.6	124.3
135	CM 29	2599.8	105.2	32.5	459.6	2339.6	8.1	15.7	417	18.5	9.3	206.1
136	BM 50	1453.5	71.9	21.1	241.6	1072.9	2.6	5.8	220.6	7.1	4.3	57.4
137	BM 51	1778.6	95.7	41.8	247.7	1852.3	4.9	11.9	171.9	12	5.4	184.5
138	BM 52	1033.8	49.5	11.2	180.1	813.8	0.9	5.3	388.7	6.1	4.8	38.3
139	BM 53	1865	79.8	27.4	317.4	2582.6	4.4	11.2	478.9	10.8	5	162.4

No.	ID	Energi (kkal)	Protein (gr)	Lemak (gr)	Karbohidrat (gr)	Vit. A (µg)	Vit. D (µg)	Vit. E (mg)	Vit. C (mg)	Iron (mg)	Mangan (mg)	Iodine (µg)
140	CM 30	2460.5	76.8	32.6	450.1	6007.4	3.5	23.7	496.8	17.1	7.9	79.5
141	ST 28	1541	63.6	21.9	265.6	920.7	1.8	8.1	208.6	10.8	5.5	121.4
142	ST 29	1112.6	44.3	13.4	197.4	598.1	1.9	4.2	177	6.3	4.2	72.4
143	BM 54	1635.2	72.4	34.7	253.5	1290.3	4.4	5.9	385.7	9.2	4.5	88.4
144	BM 55	1490.4	58.1	29	242.6	1648.4	6.2	7.3	258.1	9.6	5.4	122
145	BM 56	2299.2	104.4	69.1	307.8	2604.9	3.8	11.6	280.8	12	6.1	85.4
146	BM 57	1336.9	56.8	16.3	234.1	2308.7	5.6	7.3	215.5	8.4	4.4	75.2
147	BM 58	1051.5	39.9	18.2	178.5	531.3	2.6	2.4	51.3	4.2	4.2	47.2
148	BM 59	1513.6	58.2	29.2	249.5	2534.6	4.5	9.3	195.4	9.1	3.7	97.1
149	ST 30	866.4	41.6	25.4	114.2	902.9	5.9	5.5	109.4	7.1	2.5	55.2
150	CM 31	607.7	27.1	6.8	107.3	260.7	2.6	2	28.8	3	2.7	35.2
151	BM 60	1359.3	78.4	31.4	187.3	1755.7	4.3	8.4	199.1	8.8	2.8	145.9
152	BM 61	1655.6	61.1	34.5	269	1207.1	6.1	6.2	192.2	9.4	4.7	104
153	ST 31	1936	73	35.8	321.9	1666.5	3.6	8.8	265.5	11.2	6.2	98.4
154	CM 32	891.2	37	13	152.8	595.1	1.7	2.7	136.8	5.4	2.8	48
155	ST 32	1709	66.5	64.2	214	1250.6	2.6	6.4	203.5	6.8	4.8	52.9
156	BM 62	1275.3	53.3	14.1	231.7	841.5	3.6	5.3	120.5	6.7	5.6	76.5
157	ST 33	2917.1	176.1	76.1	375.4	1620.1	11.7	10.4	395.6	19.9	7.9	93.4

No.	ID	Energi (kkal)	Protein (gr)	Lemak (gr)	Karbohidrat (gr)	Vit. A (µg)	Vit. D (µg)	Vit. E (mg)	Vit. C (mg)	Iron (mg)	Mangan (mg)	Iodine (µg)
158	BM 63	1336.2	51.4	18.5	237.9	1460.6	2.4	4.7	178.1	6.5	4.2	42.7
159	BM 64	1460.7	55.3	21.6	256.4	846.7	2.3	4.7	238.5	7.7	4.7	73.8
160	BM 65	912.2	43.8	15.1	145.8	766.5	1.8	2.8	79.3	6	2.8	56.6
161	BM 66	990.5	35.9	12.9	177.8	1555.5	1.7	6.9	187.8	6.7	3.4	50.7
162	BM 67	1554.4	66.2	17	281.3	661.9	3.8	3.8	88	8.3	5	84.8
163	BM 68	1007.4	36.3	14.4	179.4	1350	2.2	4.6	147.3	5.1	3.3	46.4
164	ST 34	2079.1	115.3	70.1	243.8	2358	2.1	10.6	315.1	13.1	5.9	118.9
165	BM 69	1446.2	59.7	16.2	261.3	557	4.7	3.8	126.5	7.5	5.8	86

Lampiran 4. Hasil merkuri urin

		LEMBAR KERJA KOMPILASI DATA LABORATORIUM PENGUJIAN “LPPT-UGM”	
		RDP/5.10.2/LPPT Rev 1	
Nama Sampel	Urine	No Pengujian	
Kode Sampel	22080101306	Tanggal Diterima	
Tanggal Pengujian	08 Agustus 2022	Tanggal Selesai	24 Agustus 2022
Suhu Ruangan	25.3	Kelembaban	59
Metode Uji	1. Merkuri Analyzer	2.	
	3.	4.	

Lampiran 5. Hasil pemeriksaan yodium urin

No	Kode	Vol Spl (mL)	Vol Akhir (mL)	Hg Baca (µg/L)	Hg Akhir (µg/L)	Hg Akhir (µg/L)
1	BM1	1	50	0.491	24.05	24.05
2	BM2	1	50	2.152	107.10	107.10
3	BM3 (spl tdk ada)					
4	BM4	1	50	0.530	26.00	26.00
5	BM5 (spl tdk ada)					
6	BM6	1	50	0.262	12.60	12.60
7	BM7 ul1	1	50	1.627	80.85	80.03
	BM7 ul2	1	50	1.594	79.20	
8	BM8	1	50	0.654	32.20	32.20
9	BM9	1	50	0.681	33.55	33.55
10	BM10	1	50	0.743	36.65	36.65
11	BM11	1	50	0.277	13.35	13.35
12	BM12	1	50	0.595	29.25	29.25
13	BM13	1	50	0.388	18.90	18.90
14	BM14	1	50	0.859	42.45	42.45
15	BM15	1	50	0.123	5.65	5.65
16	BM16	1	50	0.417	20.35	20.35
17	BM17	1	50	0.625	30.75	30.75
18	BM18	1	50	0.664	32.70	32.70
19	BM19 (spl tdk ada)					
20	BM20	1	50	2.131	106.05	106.05

21	BM21	1	50	0.150	7.00	7.00	
22	BM22	1	50	0.262	12.60	12.60	
23	BM23	1	50	0.397	19.35	19.35	
24	BM24	1	50	0.481	23.55	23.55	
25	BM25	1	50	0.538	26.40	26.40	
26	BM26 a	1	50	0.874	43.20	43.20	
27	BM26 b	1	50	0.886	43.80	43.80	
28	BM27	1	50	0.129	5.95	5.95	
29	BM28	1	50	0.347	16.85	16.85	
30	BM29	1	50	0.079	3.45	3.45	
31	BM30	1	50	0.264	12.70	12.70	
32	BM31	1	50	0.170	8.00	8.00	
33	BM32	1	50	0.379	18.45	18.45	
34	BM33	1	50	0.803	39.65	39.65	
35	BM34	1	50	0.435	21.25	21.25	
36	BM35	1	50	0.355	17.25	17.25	
37	BM36	1	50	0.217	10.35	10.35	
38	BM37 ul1	1	50	0.479	23.45	21.60	
	BM37 ul2	1	50	0.405	19.75		
39	BM38	1	50	0.056	2.30	2.30	
40	BM39	1	50	0.030	1.00	1.00	
41	BM40	1	50	0.191	9.05	9.05	
42	BM41	1	50	0.076	3.30	3.30	
43	BM42	1	50	0.373	18.15	18.15	

44	BM43	1	50	0.056	2.30	2.30	
45	BM44	1	50	0.465	22.75	22.75	
46	BM45 (spl tdk ada)						
47	BM46	1	50	0.238	11.40	11.40	
48	BM47	1	50	1.540	76.50	76.50	
49	BM48	1	50	0.257	12.35	12.35	
50	BM49	1	50	0.308	14.90	14.90	
51	BM50	1	50	0.010	-	< 0,05	
52	BM51	1	50	0.010	-	< 0,05	
53	BM52 ul1	1	50	0.790	39.00	36.25	
	BM52 ul2	1	50	0.680	33.50		
54	BM53	1	50	0.882	43.60	43.60	
55	BM54	1	50	0.094	4.20	4.20	
56	BM55	1	50	0.010	-	< 0,05	
57	BM56	1	50	0.447	21.85	21.85	
58	BM57	1	50	0.637	31.35	31.35	
59	BM58	1	50	1.779	88.45	88.45	
60	BM60a	1	50	0.531	26.05	26.05	
61	BM60b	1	50	0.356	17.30	17.30	
62	BM61a	1	50	1.304	64.70	64.70	
63	BM61b	1	50	0.846	41.80	41.80	
64	BM62a	1	50	3.131	156.05	156.05	
65	BM62b	1	50	3.721	185.55	185.55	
66	BM64	1	50	0.950	47.00	47.00	

67	CM1	1	50	0.112	5.10	5.10	
68	CM2	1	50	0.405	19.75	19.75	
69	CM3 (spl tdk ada)						
70	CM4	1	50	0.077	3.35	3.35	
71	CM5	1	50	0.045	1.75	1.75	
72	CM6	1	50	0.018	0.40	0.40	
73	CM7	1	50	0.704	34.70	34.70	
74	CM8	1	50	0.261	12.55	12.55	
75	CM9	1	50	0.010	-	< 0,05	
76	CM10	1	50	0.010	-	< 0,05	
77	CM11 (spl tdk ada)						
78	CM12	1	50	0.737	36.35	36.35	
79	CM13	1	50	0.320	15.50	15.50	
80	CM14	1	50	1.691	84.05	84.05	
81	CM15	1	50	0.604	29.70	29.70	
82	CM16a	1	50	0.236	11.30	11.30	
83	CM16b	1	50	0.212	10.10	10.10	
84	CM17	1	50	0.136	6.30	6.30	
85	CM18	1	50	0.045	1.75	1.75	
86	CM19	1	50	0.098	4.40	4.40	
87	CM20	1	50	0.908	44.90	44.90	
88	CM21	1	50	0.060	2.50	2.50	
89	CM22	1	50	0.066	2.80	2.80	

90	CM23	1	50	6.126	305.80	305.80	
91	CM24	1	50	0.010	-	< 0,05	
92	CM25 (spl tdk ada)						
93	CM26	1	50	0.037	1.35	1.35	
94	CM27	1	50	0.111	5.05	5.05	
95	CM28	1	50	0.016	0.30	0.30	
96	CM29	1	50	0.220	10.50	10.50	
97	CM30	1	50	0.605	29.75	29.75	
98	CM31	1	50	0.498	24.40	24.40	
99	CM32	1	50	0.820	40.50	40.50	
100	CM33	1	50	0.288	13.90	13.90	
101	CM34	1	50	0.069	2.95	2.95	
102	CM35a	1	50	0.306	14.80	14.80	
103	CM35b	1	50	0.301	14.55	14.55	
104	ST1	1	50	0.176	8.30	8.30	
105	ST2 (spl tdk ada)						
106	ST3	1	50	0.335	16.25	16.25	
107	ST4	1	50	0.179	8.45	8.45	
108	ST5	1	50	0.010	-	< 0,05	
109	ST6	1	50	0.288	13.90	13.90	
110	ST7 (spl tdk ada)						
111	ST8	1	50	0.268	12.90	12.90	
112	ST9	1	50	0.253	12.15	12.15	
113	ST10	1	50	0.099	4.45	4.45	

114	ST11	1	50	0.079	3.45	3.45	
115	ST12	1	50	0.055	2.25	2.25	
116	ST13	1	50	0.227	10.85	10.85	
117	ST14	1	50	0.043	1.65	1.65	
118	ST15 (spl tdk ada)						
119	ST16	1	50	0.339	16.45	16.45	
120	ST17 (spl tdk ada)						
121	ST18	1	50	0.014	0.20	0.20	
122	ST19	1	50	0.165	7.75	7.75	
123	ST20 (spl tdk ada)						
124	ST21	1	50	0.271	13.05	13.05	
125	ST22	1	50	0.127	5.85	5.85	
126	ST23	1	50	0.218	10.40	10.40	
127	ST24 ul1	1	50	0.189	8.95	8.58	
	ST24 ul2	1	50	0.174	8.20		
128	ST25	1	50	0.112	5.10	5.10	
129	ST26	1	50	0.127	5.85	5.85	
130	ST27	1	50	0.014	0.20	0.20	
131	ST27A	1	50	0.121	5.55	5.55	
132	ST28	1	50	0.014	0.20	0.20	
133	ST29	1	50	0.204	9.70	9.70	
134	ST30	1	50	1.494	74.20	74.20	

135	ST31 ul1	1	50	0.487	23.85	22.28	
	ST31 ul2	1	50	0.424	20.70		
136	ST32	1	50	1.360	67.50	67.50	
137	ST33	1	50	0.419	20.45	20.45	
138	ST34	1	50	2.110	105.00	105.00	
139	ST35	1	50	0.677	33.35	33.35	
140	TB1	1	50	0.095	4.25	4.25	
141	TB2	1	50	0.333	16.15	16.15	
142	TB3	1	50	0.038	1.40	1.40	
143	TB4	1	50	0.053	2.15	2.15	
144	TB5 (spl tdk ada)						
145	TB6	1	50	0.089	3.95	3.95	
146	TB7	1	50	0.010	-	< 0,05	
147	TB8	1	50	0.032	1.10	1.10	
148	TB9	1	50	0.023	0.65	0.65	
149	TB10	1	50	0.010	-	< 0,05	
150	TB11	1	50	0.010	-	< 0,05	
151	TB12	1	50	0.010	-	< 0,05	
152	TB13	1	50	0.477	23.35	23.35	
153	TB14	1	50	0.010	-	< 0,05	
154	TB15	1	50	0.010	-	< 0,05	
155	TB16	1	50	0.048	1.90	1.90	
156	TB17	1	50	0.072	3.10	3.10	
157	TB18	1	50	1.038	51.40	51.40	

158	TB19	1	50	1.618	80.40	80.40	
159	TB20	1	50	0.027	0.85	0.85	
160	TB21	1	50	0.642	31.60	31.60	
161	TB22	1	50	0.280	13.50	13.50	
162	TB23	1	50	0.505	24.75	24.75	
163	TB24a	1	50	0.553	27.15	27.15	
164	TB24b	1	50	0.010	-	< 0,05	
165	TB25	1	50	0.223	10.65	10.65	
166	TB26	1	50	0.325	15.75	15.75	
167	TB27	1	50	0.566	27.80	27.80	
168	TB28	1	50	0.479	23.45	23.45	
169	TB29 ul1	1	50	1.770	88.00	87.63	
	TB29 ul2	1	50	1.755	87.25		
170	Blanko			0.010			

A. PEMBUATAN KURVA BAKU DAN PEMBACAAN SAMPEL

1. Pipet 0,1 mL larutan induk Hg 1000 ppm, masukkan dalam labu takar 100 mL, tepatkan dengan aquadest sampai dengan tanda tera (Hg : 1000 ppb)
2. Pipet 0,1 mL larutan induk Hg 1000 ppb, masukkan dalam labu takar 10 mL, tepatkan dengan aquadest hingga batas tanda tera (Hg : 10 ppb)
3. Buat konsentrasi standar dengan rentang (ppb): 0,05; 0,1 ; 0,2; 0,4 ; 0,8 ; 1,6 ; 3,2 ,dengan cara
4. Pipet masing-masing (mL) 0,05 ; 0,1 ; 0,2 ; 0,4 ; 0,8 ; 1,6 ; 3,2 masukan dalam labu takar 10 mL,tepatkan 10 mL dengan aquadest, tuang dlm vial
5. Baca dengan mercury analyzer

C.PREPARASI SAMPEL

1. Sampel dicampur (gojog)
2. Ambil sampel 1 ml dg mikropipet dan dimasukkan dalam Erlenmeyer 100 mL

3. Ditambah 10 mL HNO₃:HClO₄ (1:1)
4. Dipanaskan diatas hotplate hingga jernih dan keluar asap putih
5. Saring dan tepatkan 50 mL dengan labu takar
6. Buat blanko dengan perlakuan sama tanpa sampel
7. Ambil sampel dimasukan dalam tabung vial
8. Baca dengan mercury analyzer

Diperiksa/ Disetujui Oleh

Dikerjakan oleh



Heri Dwi Harmono



KEMENTERIAN KESEHATAN RI
BADAN PENELITIAN DAN PENGEMBANGAN KESEHATAN
LABORATORIUM BALAI LITBANG KESEHATAN MAGELANG
Kapling Jayan, Borobudur, Magelang, Jawa Tengah 56553
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Website : www.bp2gaki.litbang.kemkes.go.id , Email : labgakimgl@gmail.com



LAPORAN HASIL UJI

No Order	: PE. 2022.08.UIE 05	No. Id Lab	: U.A.01 – U.A.163*
Unit Laboratorium	: Lab. Biokimia	No. Rekam Medis	: -
Jenis Sampel	: Urin	Nama Pelanggan	: dr. Ardiana Ekawanti, M. Kes
Terima Sampel	: 8 Agustus 2022	Umur Pelanggan	: -
Pemeriksaan	: 9-11, 16 Agustus 2022	Alamat Pelanggan	: Universitas Mataram, NTB
Kondisi Sampel	: Baik**	Pengambilan Hasil	: 24 Agustus 2022

No	Jenis Pengujian	Hasil	Rentang Nilai Normal	Satuan	Metode
	Kadar Iodium Urin (UIE)	-	Median 100-199	µg/L	IK - 7.2.7 UIE (Spektrofotometri)

Kesimpulan/Interpretasi :

Catatan :

- [*] Hasil Terlampir
- [**] Pengambilan sampel dilakukan oleh pelanggan

Magelang, 22 Agustus 2022
Kepala Instalasi Laboratorium,

(Emani Budi Prihatmi, S.ST)

Lampiran

Customer : dr. Ardiana Ekawanti, M.Kes

Alamat : Universitas Mataram

No	Id Lab	Kode Sampel	UIE (μ g/L)
1	U.A.001	BM. 1	267
2	U.A.002	BM. 2	205
3	U.A.003	BM. 3	179
4	U.A.004	BM. 4	171
5	U.A.005	BM. 5	180
6	U.A.006	BM. 6	350
7	U.A.007	BM. 7	255
8	U.A.008	BM. 8	231
9	U.A.009	BM. 9	454
10	U.A.010	BM. 10	119
11	U.A.011	BM. 11	120
12	U.A.012	BM. 12	43
13	U.A.013	BM. 13	148
14	U.A.014	BM. 14	404
15	U.A.015	BM. 15	211
16	U.A.016	BM. 16	114
17	U.A.017	BM. 17	256
18	U.A.018	BM. 18	131
19	U.A.019	BM. 19	239
20	U.A.020	BM. 21	92
21	U.A.021	BM. 22	38
22	U.A.022	BM. 23	47
23	U.A.023	BM. 24	120
24	U.A.024	BM. 25	97
25	U.A.025	BM. 27	241
26	U.A.026	BM. 28	55
27	U.A.027	BM. 29	131
28	U.A.028	BM. 30	177
29	U.A.029	BM. 31	266
30	U.A.030	BM. 32	121
31	U.A.031	BM. 33	152
32	U.A.032	BM. 34	46
33	U.A.033	BM. 35	125
34	U.A.034	BM. 36	53
35	U.A.035	BM. 37	194
36	U.A.036	BM. 38	91
37	U.A.037	BM. 39	92
38	U.A.038	BM. 40	81
39	U.A.039	BM. 41	69
40	U.A.040	BM. 42	538
41	U.A.041	BM. 43	44
42	U.A.042	BM. 44	293

No	Id Lab	Kode Sampel	UIE (µg/L)
43	U.A.043	BM.45A	184
44	U.A.044	BM.45B	197
45	U.A.045	BM. 46	149
46	U.A.046	BM. 47	82
47	U.A.047	BM. 48	63
48	U.A.048	BM. 49	26
49	U.A.049	BM. 50	218
50	U.A.050	BM. 51	221
51	U.A.051	BM. 52	201
52	U.A.052	BM. 53	122
53	U.A.053	BM. 54	246
54	U.A.054	BM. 55	51
55	U.A.055	BM. 56A	168
56	U.A.056	BM. 56B	166
57	U.A.057	BM. 57	336
58	U.A.058	BM. 58	182
59	U.A.059	BM. 59	151
60	U.A.060	BM. 62	153
61	U.A.061	BM. 63	101
62	U.A.062	BM. 64	169
63	U.A.063	CM. 1	188
64	U.A.064	CM. 2	196
65	U.A.065	CM. 4	142
66	U.A.066	CM.5A	191
67	U.A.067	CM. 5B	154
68	U.A.068	CM. 6	99
69	U.A.069	CM. 7	102
70	U.A.070	CM. 8	231
71	U.A.071	CM. 9	263
72	U.A.072	CM. 10	90
73	U.A.073	CM. 11	334
74	U.A.074	CM. 12	149
75	U.A.075	CM. 13	137
76	U.A.076	CM. 14	200
77	U.A.077	CM. 15	192
78	U.A.078	CM. 16	133
79	U.A.079	CM. 17	25
80	U.A.080	CM. 18	456
81	U.A.081	CM. 19	83
82	U.A.082	CM. 20	100
83	U.A.083	CM. 21	69
84	U.A.084	CM. 22	53
85	U.A.085	CM. 23	213
86	U.A.086	CM. 24	130
87	U.A.087	CM. 25	228
88	U.A.088	CM. 26	24

No	Id Lab	Kode Sampel	UIE (µg/L)
89	U.A.089	CM. 27	112
90	U.A.090	CM. 28	81
91	U.A.091	CM. 29	50
92	U.A.092	CM. 30	238
93	U.A.093	CM. 31	50
94	U.A.094	CM. 32	263
95	U.A.095	CM. 33	62
96	U.A.096	CM. 34	38
97	U.A.097	CM. 35	141
98	U.A.098	ST. 1	282
99	U.A.099	ST. 2	74
100	U.A.100	ST. 3	199
101	U.A.101	ST. 4	246
102	U.A.102	ST. 5	58
103	U.A.103	ST. 6	265
104	U.A.104	ST. 7	113
105	U.A.105	ST. 8	98
106	U.A.106	ST. 9	56
107	U.A.107	ST. 10	183
108	U.A.108	ST. 11	74
109	U.A.109	ST. 12	115
110	U.A.110	ST. 13	92
111	U.A.111	ST. 14	166
112	U.A.112	ST. 16	129
113	U.A.113	ST. 17	245
114	U.A.114	ST. 18	122
115	U.A.115	ST. 19	327
116	U.A.116	ST. 20	196
117	U.A.117	ST. 21	48
118	U.A.118	ST. 22	214
119	U.A.119	ST. 23	73
120	U.A.120	ST. 24	129
121	U.A.121	ST. 25	151
122	U.A.122	ST. 26	77
123	U.A.123	ST. 27 A	81
124	U.A.124	ST. 27 B	122
125	U.A.125	ST. 28	94
126	U.A.126	ST. 29	34
127	U.A.127	ST. 30	269
128	U.A.128	ST. 31	88
129	U.A.129	ST. 32	46
130	U.A.130	ST. 33	41
131	U.A.131	ST. 34	137
132	U.A.132	ST. 35	153
133	U.A.133	TB. 1	51
134	U.A.134	TB. 2	200

No	Id Lab	Kode Sampel	180
135	UA.135	TB. 3	104
136	UA.136	TB. 4	74
137	UA.137	TB. 5	139
138	UA.138	TB. 6	180
139	UA.139	TB. 7	463
140	UA.140	TB. 8	126
141	UA.141	TB. 9	188
142	UA.142	TB. 10	70
143	UA.143	TB. 11	157
144	UA.144	TB. 12	98
145	UA.145	TB. 13	79
146	UA.146	TB. 14	117
147	UA.147	TB. 15	85
148	UA.148	TB. 16	121
149	UA.149	TB. 17	54
150	UA.150	TB. 18	239
151	UA.151	TB. 19	63
152	UA.152	TB. 20	305
153	UA.153	TB. 21	182
154	UA.154	TB. 22	68
155	UA.155	TB. 23A	127
156	UA.156	TB. 23B	186
157	UA.157	TB. 24A	43
158	UA.158	TB. 24B	94
159	UA.159	TB. 25	47
160	UA.160	TB. 26	110
161	UA.161	TB. 27	125
162	UA.162	TB. 28	187
163	UA.163	TB. 29	68

Kepala Instalasi Laboratorium

Emanu Budhi Prihatmi, S.S.T

Lampiran 6. Hasil pemeriksaan TSH dan FT4

No.	ID	Umur	TSH	TSH rujukan	FT4	FT4 rujukan
1	CM 35	9 bulan 11 hari	2.76	0.73-*8.35	1.52	0.4-*2.34
2	ST 35	9 bulan 23 hari	2.18	0.73-*8.35	1.41	0.4-*2.34
3	ST 34	9 bulan 15 hari	0.871	0.73-*8.35	1.39	0.4-*2.34
4	ST 33	12 bulan	2.13	0.7-*5.97	1.09	0.4-*2.34
5	ST 31	1 tahun 2 bulan	1.65	0.7-*5.97	1.47	0.85-*1.75
6	CM 33	12 bulan	5.31	0.7-*5.97	0.99	0.4-*2.34
7	CM 32	11 bulan 4 hari	5.28	0.73-*8.35	1.09	0.4-*2.34
8	CM 31	12 bulan	5.06	0.7-*5.97	1.08	0.4-*2.34
9	CM 31	12 bulan	2.91	0.7-*5.98	1.18	0.4-*2.35
10	BM 59	10 bulan 6 hari	5.13	0.73-*8.35	1.2	0.4-*2.34
11	BM 58	7 bulan 21 hari	2.46	0.73-*8.35	1.23	0.4-*2.34
12	BM 57	8 bulan 23 hari	1.87	0.73-*8.35	1.27	0.4-*2.34
13	BM 56	6 bulan 25 hari	1.47	0.73-*8.35	1.49	0.4-*2.34
14	CM 30	1 tahun 1 bulan	2.52	0.7-*5.97	1.2	0.4-*2.34
15	BM 48	10 bulan 3 hari	1.83	0.73-*8.35	0.92	0.4-*2.34
16	TB 27	9 bulan 11 hari	1.92	0.73-*8.35	1.19	0.4-*2.34
17	TB 29	9 bulan 16 hari	0.917	0.73-*8.35	1.28	0.4-*2.34
18	CM 14	8 bulan 9 hari	2.12	0.73-*8.35	1.14	0.4-*2.34
19	CM 13	11 bulan 25 hari	2.38	0.73-*8.36	1.37	0.4-*2.35
20	CM 15	12 bulan	3.09	0.7-*5.97	1.28	0.4-*2.34
21	TB 13	10 bulan 6 hari	0.88	0.73-*8.35	1.4	0.4-*2.35
22	ST 4	12 bulan	2.2	0.7-*5.97	1.22	0.4-*2.36
23	BM 8	1 tahun 1 bulan	2.33	0.7-*5.97	1.24	0.85-*1.75
24	CM 16	11 bulan 13 hari	1.93	0.73-*8.35	1.34	0.4-*2.34
25	BM 7	12 bulan	2.48	0.7-*5.97	1.12	0.4-*2.34
26	BM 4	1 tahun 10 bulan	3.03	0.7-*5.97	1.31	0.85-*1.75 1 tahun 1 bulan
27	BM 2	10 bulan 23 hari	1.2	0.73-*8.35	1.38	0.4-*2.34
28	BM 1	12 bulan	0.479	0.7-*5.97	1.02	0.4-*2.34
29	ST 1	9 bulan 3 hari	2.33	0.73-*8.35	1.09	0.4-*2.34
30	TB 2	10 bulan 15 hari	1.36	0.73-*8.35	1.29	0.4-*2.34
31	ST 6	10 bulan 8 hari	1.71	0.73-*8.36	1.11	0.4-*2.35
32	BM 14	9 bulan 26 hari	2.07	0.73-*8.35	1.29	0.4-*2.34
33	BM 13	11 bulan 11 hari	2.38	0.73-*8.35	1.27	0.4-*2.34
34	BM 11	10 bulan 21 hari	2.27	0.73-*8.35	1.47	0.4-*2.34
35	BM 16	1 tahun 1 bulan	1.62	0.7-*5.97	1.09	0.4-*2.34
36	TB 19	11 bulan 9 hari	3.05	0.73-*8.35	1.28	0.4-*2.34
37	TB 18	11 bulan 3 hari	2.45	0.73-*8.35	1.07	0.4-*2.34
38	ST 8	12 bulan	0.988	0.7-*5.97	1.16	0.4-*2.34

No.	ID	Umur	TSH	TSH rujukan	FT4	FT4 rujukan
39	BM 10	1 tahun 1 bulan	3.57	0.7-*5.97	1.25	0.85-*1.75
40	BM 21	8 bulan 20 hari	1.83	0.73-*8.35	1.4	0.4-*2.34
41	BM 20	8 bulan 19 hari	1.63	0.73-*8.35	1.41	0.4-*2.34
42	BM 17	10 bulan 18 hari	2.15	0.73-*8.35	1.21	0.4-*2.34
43	ST 13	12 bulan	2.16	0.7-*5.97	1.43	0.4-*2.34
44	CM 23	9 buan 20 hari	1.1	0.7-*5.97	1.2	0.4-*2.34
45	CM 20	8 bulan 24 hari	2.46	0.73-*8.35	1.21	0.48-*2.34
46	ST 9	9 bulan 7 hari	1.37	0.73-*8.36	1.11	0.48-*2.34
47	BM 22	12 bulan	3.73	0.7-*5.97	1.22	0.48-*2.34
48	BM 28	7 bulan 29 hari	3.89	0.73-*8.35	1.36	0.48-*2.34
49	BM 24	10 bulan 16 hari	2.02	0.73-*8.35	1.35	0.48-*2.34
50	BM 25	12 bulan	2.05	0.7-*5.97	1.31	0.48-*2.34
51	BM 23	1 tahun 1 bulan	0.946	0.7-*5.97	1.33	0.85-*1.75
52	ST 16	1 tahun 4 bulan	3.79	0.7-*5.97	1.62	0.85-*1.75
53	TB 25	11 bulan 7 hari	0.586	0.73-*8.35	1.37	0.48-*2.34
54	ST 26	12 bulan	2.03	0.7-*5.97	1.31	0.48-*2.34
55	BM 40	11 bulan 19 hari	1.53	0.73-*8.36	1.37	0.48-*2.34
56	TB 24	11 bulan 20 hari	3.49	0.73-*8.35	1.22	0.48-*2.34
57	BM 37	10 bulan 26 hari	1.78	0.73-*8.36	1.2	0.48-*2.35
58	ST 23	10 bulan 23 hari	3.01	0.73-*8.35	1.32	0.48-*2.34
59	BM 34	12 bulan	2.53	0.7-*5.97	1.42	0.48-*2.34
60	BM 32	12 bulan	2.81	0.7-*5.97	1.28	0.48-*2.34
61	BM 46	10 bulan 21 hari	1.54	0.73-*8.35	1.32	0.48-*2.34
62	BM 47	10 bulan 17 hari	2.72	0.73-*8.35	1.06	0.48-*2.34
63	BM 42	11 bulan 26 hari	1.89	0.73-*8.35	1.21	0.48-*2.34
64	BM 44	9 bulan 7 hari	1.52	0.73-*8.35	1.47	0.48-*2.34
65	BM 31	9 bulan 29 hari	1.63	0.73-*8.35	1.02	0.48-*2.34

L7. Lampiran Hasil pemeriksaan RT-PCR ekspresi mRNA gen FoxE1

HASIL PEMERIKSAAN RTPCR GEN FoxE1 / HOUSEKEEPING GEN GAPDH

Plate 1			Plate 2			Plate 3		
NO	Sampel	Ekspresi (Fold change)	NO	Sampel	Ekspresi (Fold change)	NO	Sampel	Ekspresi (Fold change)
1	L01	8.190	1	L23	8.024	1	L44	12.126
2	L02	9.941	2	L24	8.618	2	L45	13.278
3	L03	9.885	3	L25	8.274	3	L46	13.291
4	L04	7.980	4	L26	8.962	4	L47	13.450
5	L05	9.760	5	L27	10.417	5	L48	12.597
6	L06	8.013	6	L28	11.446	6	L49	10.899
7	L07	7.766	7	L29	9.476	7	L50	11.725
8	L08	10.510	8	L30	7.980	8	L51	11.171
9	L09	9.228	9	L31	8.860	9	L52	13.930
10	L10	9.782	10	L32	9.936	10	L53	12.361
11	L11	8.541	11	L33	7.788	11	L54	13.370
12	L12	10.421	12	L34	10.874	12	L55	13.881
13	L13	9.085	13	L35	7.637	13	L56	11.889
14	L14	10.200	14	L36	8.495	14	L57	14.590
15	L15	7.643	15	L37	9.074	15	L58	12.625
16	L16	9.473	16	L38	10.026	16	L59	13.553
17	L17	7.845	17	L39	12.616	17	L60	13.084
18	L18	8.933	18	L40	11.065	18	L61	14.061
19	L19	10.040	19	L41	13.075	19	L62	11.683
20	L20	9.635	20	L42	12.255	20	L63	12.942
21	L21	8.847	21	L43	11.361	21	L64	14.789
22	L22	9.535						

L8. Lampiran Hasil Analisis Data

I. STATISTIK DESKRIPTIF

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum
Hgall	148	22.9842	36.62818	.05	305.80
Hganak	64	33.7553	42.50293	5.85	305.80
mRNA	64	10.6064	2.06506	7.64	14.79
TSHs	64	2.2929	1.07586	.48	5.31
FT4	64	1.2580	.14197	.92	1.62
UIE	64	153.2656	97.78682	38.00	538.00

Statistics

	Hgall	KlpkHgall	Hganak	KlpkHganak	mRNA	TSHs	FT4
N	Valid	148	148	64	64	64	64
	Missing	0	0	84	84	84	84
Mean		22.9842	.70	33.7553	1.00	10.6064	2.2929
Median		12.8000	1.00	21.7250	1.00	10.1200	2.1400
Std. Deviation		36.62818	.459	42.50293	.000	2.06506	1.07586
Skewness		4.420	-.896	4.552		.306	1.086
Std. Error of Skewness		.199	.199	.299	.299	.299	.299
Range		305.75	1	299.95	0	7.15	4.83
Minimum		.05	0	5.85	1	7.64	.48
Maximum		305.80	1	305.80	1	14.79	5.31

Hganak

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	5.85	1	.7	1.6	1.6
	7.00	1	.7	1.6	3.1
	8.00	1	.7	1.6	4.7
	8.30	1	.7	1.6	6.3
	8.45	1	.7	1.6	7.8
	9.05	1	.7	1.6	9.4
	10.40	1	.7	1.6	10.9
	10.65	1	.7	1.6	12.5
	10.85	1	.7	1.6	14.1
	11.30	1	.7	1.6	15.6
	11.40	1	.7	1.6	17.2
	12.15	1	.7	1.6	18.8
	12.35	1	.7	1.6	20.3
	12.60	1	.7	1.6	21.9
	12.90	1	.7	1.6	23.4
	13.35	1	.7	1.6	25.0
	13.90	2	1.4	3.1	28.1
	14.80	1	.7	1.6	29.7
	15.50	1	.7	1.6	31.3
	16.15	1	.7	1.6	32.8
	16.45	1	.7	1.6	34.4
	16.85	1	.7	1.6	35.9
	17.30	1	.7	1.6	37.5
	18.15	1	.7	1.6	39.1
	18.45	1	.7	1.6	40.6
	18.90	1	.7	1.6	42.2
	19.35	1	.7	1.6	43.8
	20.35	1	.7	1.6	45.3
	20.45	1	.7	1.6	46.9
	21.25	1	.7	1.6	48.4
	21.60	1	.7	1.6	50.0
	21.85	1	.7	1.6	51.6
	22.28	1	.7	1.6	53.1
	22.75	1	.7	1.6	54.7
	23.35	1	.7	1.6	56.3
	23.55	1	.7	1.6	57.8
	24.40	2	1.4	3.1	60.9
	24.50	1	.7	1.6	62.5
	26.00	1	.7	1.6	64.1
	26.40	1	.7	1.6	65.6
	27.15	1	.7	1.6	67.2
	27.80	1	.7	1.6	68.8
	29.70	1	.7	1.6	70.3
	29.75	1	.7	1.6	71.9
	30.75	1	.7	1.6	73.4
	31.35	1	.7	1.6	75.0
	32.20	1	.7	1.6	76.6
	33.35	1	.7	1.6	78.1
	36.65	1	.7	1.6	79.7
	40.50	1	.7	1.6	81.3
	42.45	1	.7	1.6	82.8
	44.90	1	.7	1.6	84.4
	51.40	1	.7	1.6	85.9
	76.50	1	.7	1.6	87.5
	80.03	1	.7	1.6	89.1
	80.40	1	.7	1.6	90.6
	84.05	1	.7	1.6	92.2
	87.63	1	.7	1.6	93.8
	88.45	1	.7	1.6	95.3
	105.00	1	.7	1.6	96.9
	107.10	1	.7	1.6	98.4
	305.80	1	.7	1.6	100.0
Total		64	43.2	100.0	
Missing	System	84	56.8		
Total		148	100.0		

mRNA

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	7.64	1	.7	1.6	1.6
	7.64	1	.7	1.6	3.1
	7.77	1	.7	1.6	4.7
	7.79	1	.7	1.6	6.3
	7.85	1	.7	1.6	7.8
	7.98	2	1.4	3.1	10.9
	8.01	1	.7	1.6	12.5
	8.02	1	.7	1.6	14.1
	8.19	1	.7	1.6	15.6
	8.27	1	.7	1.6	17.2
	8.50	1	.7	1.6	18.8
	8.54	1	.7	1.6	20.3
	8.62	1	.7	1.6	21.9
	8.85	1	.7	1.6	23.4
	8.86	1	.7	1.6	25.0
	8.93	1	.7	1.6	26.6
	8.96	1	.7	1.6	28.1
	9.07	1	.7	1.6	29.7
	9.09	1	.7	1.6	31.3
	9.23	1	.7	1.6	32.8
	9.47	1	.7	1.6	34.4
	9.48	1	.7	1.6	35.9
	9.54	1	.7	1.6	37.5
	9.64	1	.7	1.6	39.1
	9.76	1	.7	1.6	40.6
	9.78	1	.7	1.6	42.2
	9.89	1	.7	1.6	43.8
	9.94	1	.7	1.6	45.3
	9.94	1	.7	1.6	46.9
	10.03	1	.7	1.6	48.4
	10.04	1	.7	1.6	50.0
	10.20	1	.7	1.6	51.6
	10.42	1	.7	1.6	53.1
	10.42	1	.7	1.6	54.7
	10.51	1	.7	1.6	56.3
	10.87	1	.7	1.6	57.8
	10.90	1	.7	1.6	59.4
	11.07	1	.7	1.6	60.9
	11.17	1	.7	1.6	62.5
	11.36	1	.7	1.6	64.1
	11.45	1	.7	1.6	65.6
	11.68	1	.7	1.6	67.2
	11.73	1	.7	1.6	68.8
	11.89	1	.7	1.6	70.3
	12.13	1	.7	1.6	71.9
	12.26	1	.7	1.6	73.4
	12.36	1	.7	1.6	75.0
	12.60	1	.7	1.6	76.6
	12.62	1	.7	1.6	78.1
	12.63	1	.7	1.6	79.7
	12.94	1	.7	1.6	81.3
	13.08	1	.7	1.6	82.8
	13.08	1	.7	1.6	84.4
	13.28	1	.7	1.6	85.9
	13.29	1	.7	1.6	87.5
	13.37	1	.7	1.6	89.1
	13.45	1	.7	1.6	90.6
	13.55	1	.7	1.6	92.2
	13.88	1	.7	1.6	93.8
	13.93	1	.7	1.6	95.3
	14.06	1	.7	1.6	96.9
	14.59	1	.7	1.6	98.4
	14.79	1	.7	1.6	100.0
Total		64	43.2	100.0	
Missing	System	84	56.8		
Total		148	100.0		

TSHs

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	.48	1	.7	1.6	1.6
	.59	1	.7	1.6	3.1
	.87	1	.7	1.6	4.7
	.88	1	.7	1.6	6.3
	.92	1	.7	1.6	7.8
	.95	1	.7	1.6	9.4
	.99	1	.7	1.6	10.9
	1.10	1	.7	1.6	12.5
	1.20	1	.7	1.6	14.1
	1.36	1	.7	1.6	15.6
	1.37	1	.7	1.6	17.2
	1.47	1	.7	1.6	18.8
	1.52	1	.7	1.6	20.3
	1.53	1	.7	1.6	21.9
	1.54	1	.7	1.6	23.4
	1.62	1	.7	1.6	25.0
	1.63	1	.7	1.6	26.6
	1.65	1	.7	1.6	28.1
	1.71	1	.7	1.6	29.7
	1.78	1	.7	1.6	31.3
	1.83	2	1.4	3.1	34.4
	1.87	1	.7	1.6	35.9
	1.89	1	.7	1.6	37.5
	1.92	1	.7	1.6	39.1
	1.93	1	.7	1.6	40.6
	2.02	1	.7	1.6	42.2
	2.03	1	.7	1.6	43.8
	2.05	1	.7	1.6	45.3
	2.07	1	.7	1.6	46.9
	2.12	1	.7	1.6	48.4
	2.13	1	.7	1.6	50.0
	2.15	1	.7	1.6	51.6
	2.16	1	.7	1.6	53.1
	2.18	1	.7	1.6	54.7
	2.20	1	.7	1.6	56.3
	2.27	1	.7	1.6	57.8
	2.33	2	1.4	3.1	60.9
	2.38	2	1.4	3.1	64.1
	2.45	1	.7	1.6	65.6
	2.46	2	1.4	3.1	68.8
	2.48	1	.7	1.6	70.3
	2.52	1	.7	1.6	71.9
	2.53	1	.7	1.6	73.4
	2.72	1	.7	1.6	75.0
	2.76	1	.7	1.6	76.6
	2.81	1	.7	1.6	78.1
	2.91	1	.7	1.6	79.7
	3.01	1	.7	1.6	81.3
	3.03	1	.7	1.6	82.8
	3.05	1	.7	1.6	84.4
	3.09	1	.7	1.6	85.9
	3.49	1	.7	1.6	87.5
	3.57	1	.7	1.6	89.1
	3.73	1	.7	1.6	90.6
	3.79	1	.7	1.6	92.2
	3.89	1	.7	1.6	93.8
	5.06	1	.7	1.6	95.3
	5.13	1	.7	1.6	96.9
	5.28	1	.7	1.6	98.4
	5.31	1	.7	1.6	100.0
Total		64	43.2	100.0	
Missing	System	84	56.8		
Total		148	100.0		

FT4

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	.92	1	.7	1.6	1.6
	.99	1	.7	1.6	3.1
	1.02	2	1.4	3.1	6.3
	1.06	1	.7	1.6	7.8
	1.07	1	.7	1.6	9.4
	1.08	1	.7	1.6	10.9
	1.09	4	2.7	6.3	17.2
	1.11	2	1.4	3.1	20.3
	1.12	1	.7	1.6	21.9
	1.14	1	.7	1.6	23.4
	1.16	1	.7	1.6	25.0
	1.18	1	.7	1.6	26.6
	1.19	1	.7	1.6	28.1
	1.20	4	2.7	6.3	34.4
	1.21	3	2.0	4.7	39.1
	1.22	3	2.0	4.7	43.8
	1.23	1	.7	1.6	45.3
	1.24	1	.7	1.6	46.9
	1.25	1	.7	1.6	48.4
	1.27	2	1.4	3.1	51.6
	1.28	4	2.7	6.3	57.8
	1.29	2	1.4	3.1	60.9
	1.31	3	2.0	4.7	65.6
	1.32	2	1.4	3.1	68.8
	1.33	1	.7	1.6	70.3
	1.34	1	.7	1.6	71.9
	1.35	1	.7	1.6	73.4
	1.36	1	.7	1.6	75.0
	1.37	3	2.0	4.7	79.7
	1.38	1	.7	1.6	81.3
	1.39	1	.7	1.6	82.8
	1.40	2	1.4	3.1	85.9
	1.41	1	.7	1.6	87.5
	1.42	1	.7	1.6	89.1
	1.43	1	.7	1.6	90.6
	1.47	3	2.0	4.7	95.3
	1.49	1	.7	1.6	96.9
	1.52	1	.7	1.6	98.4
	1.62	1	.7	1.6	100.0
Total		64	43.2	100.0	
Missing	System	84	56.8		
Total		148	100.0		

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		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	16	3	2.0	2.0	2.0
	17	4	2.7	2.7	4.7
	18	10	6.8	6.8	11.5
	19	14	9.5	9.5	20.9
	20	6	4.1	4.1	25.0
	21	7	4.7	4.7	29.7
	22	7	4.7	4.7	34.5
	23	9	6.1	6.1	40.5
	24	5	3.4	3.4	43.9
	25	9	6.1	6.1	50.0
	26	5	3.4	3.4	53.4
	27	7	4.7	4.7	58.1
	28	7	4.7	4.7	62.8
	29	11	7.4	7.4	70.3
	30	17	11.5	11.5	81.8
	31	3	2.0	2.0	83.8
	32	3	2.0	2.0	85.8
	33	3	2.0	2.0	87.8
	34	3	2.0	2.0	89.9
	35	9	6.1	6.1	95.9
	36	1	.7	.7	96.6
	37	1	.7	.7	97.3
	40	2	1.4	1.4	98.6
	45	1	.7	.7	99.3
	46	1	.7	.7	100.0
	Total	148	100.0	100.0	

Umurkehamilan

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	4	18	12.2	12.2	12.2
	5	10	6.8	6.8	18.9
	6	25	16.9	16.9	35.8
	7	30	20.3	20.3	56.1
	8	39	26.4	26.4	82.4
	9	1	.7	.7	83.1
	9	25	16.9	16.9	100.0
	Total	148	100.0	100.0	

UmurAnak

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	6	1	.7	1.6	1.6
	7	2	1.4	3.1	4.7
	8	4	2.7	6.3	10.9
	9	11	7.4	17.2	28.1
	10	13	8.8	20.3	48.4
	11	10	6.8	15.6	64.1
	12	15	10.1	23.4	87.5
	13	5	3.4	7.8	95.3
	14	1	.7	1.6	96.9
	16	1	.7	1.6	98.4
	22	1	.7	1.6	100.0
	Total	64	43.2	100.0	
Missing	System	84	56.8		
	Total	148	100.0		

SexAnak

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	84	56.8	56.8	56.8
L	36	24.3	24.3	81.1
p	1	.7	.7	81.8
P	27	18.2	18.2	100.0
Total	148	100.0	100.0	

Status yodium urin

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Insufisiensi	90	54.5	60.8	60.8
	Adekuat/optimal	39	23.6	26.4	87.2
	Di atas kebutuhan	18	10.9	12.2	99.3
	Berlebihan	1	.6	.7	100.0
	Total	148	89.7	100.0	
Missing	System	17	10.3		
	Total	165	100.0		

II. UJI NORMALITAS

One-Sample Kolmogorov-Smirnov Test

	Hgall	Hganak	mRNA	TSHs	FT4	UIE	UIEall
N	148	64	64	64	64	64	148
Normal Parameters ^{a,b}	Mean	22.9842	33.7553	10.6064	2.2929	1.2580	153.2656
	Std. Deviation	36.62818	42.50293	2.06506	1.07586	.14197	97.78682
Most Extreme Differences	Absolute	.266	.285	.108	.147	.060	.126
	Positive	.218	.285	.108	.147	.054	.126
	Negative	-.266	-.256	-.082	-.062	-.060	-.119
Test Statistic		.266	.285	.108	.147	.060	.126
Asymp. Sig. (2-tailed)		.000 ^c	.000 ^c	.061 ^c	.001 ^c	.200 ^{c,e}	.013 ^c
Monte Carlo Sig. (2-tailed)	Sig.	.000 ^d	.000 ^d	.493 ^d	.155 ^d	.980 ^d	.338 ^d
	95% Confidence Interval	Lower Bound	.000	.000	.413	.097	.957
		Upper Bound	.020	.020	.574	.214	1.000
						.414	.063

a. Test distribution is Normal.

b. Calculated from data.

c. Lilliefors Significance Correction.

d. Based on 148 sampled tables with starting seed 2000000.

e. This is a lower bound of the true significance.

III. UJI KOMPARASI

3.1.UJI BEDA ASUPAN YODIUM: AKG-RESPONDEN

One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
iodineintakepergroup	165	78.461	63.3020	4.9281

One-Sample Test

	Test Value = 220					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
iodineintakepergroup	-28.721	164	.000	-141.5394	-151.270	-131.809

3.2. UJI BEDA KADAR MERKURI URIN: WHO-RESPONDEN

One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
Hgall	148	22.9842	36.62818	3.01082

One-Sample Test

	Test Value = 5					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
Hgall	5.973	147	.000	17.98419	12.0341	23.9343

3.3. UJI BEDA mRNA FoxE1

Group Statistics

KlpkHganak	N	Mean	Std. Deviation	Std. Error Mean
mRNA 1	40	10.1786	1.91396	.30262
2	24	11.3192	2.14966	.43880

Independent Samples Test

	Levene's Test for Equality of Variances			t-test for Equality of Means						
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference		
								Lower	Upper	
mRNA	Equal variances assumed Equal variances not assumed	.976	.327	-2.204 -2.140	.62 44.187	.031 .038	-.14056 -.14056	.51759 .53303	-2.17521 -2.21469	-.10590 -.06643

IV. UJI KORELASI

4.1 Hg dengan Fungsi Tiroid

Correlations

			TSHs	Hganak
Spearman's rho	TSHs	Correlation Coefficient	1.000	.084
		Sig. (2-tailed)		.511
		N	64	64
			Hganak	Correlation Coefficient
			.084	1.000
		Sig. (2-tailed)	.511	
		N	64	64

Correlations

			Hganak	FT4
Spearman's rho	Hganak	Correlation Coefficient	1.000	-.129
		Sig. (2-tailed)		.310
		N	64	64
			FT4	Correlation Coefficient
			-.129	1.000
		Sig. (2-tailed)	.310	
		N	64	64

Correlations

			mRNA	KlpkHgAllWHO
Spearman's rho	mRNA	Correlation Coefficient	1.000	.247*
		Sig. (2-tailed)		.049
		N	64	64
			KlpkHgAllWHO	Correlation Coefficient
			.247*	1.000
		Sig. (2-tailed)	.049	
		N	64	148

*. Correlation is significant at the 0.05 level (2-tailed).

4.2 Hg dengan mRNA gen FoxE1

Correlations

			HgUIE	mRNA
Spearman's rho	HgUIE	Correlation Coefficient	1.000	.806**
		Sig. (2-tailed)	.	.000
		N	64	64
mRNA		Correlation Coefficient	.806**	1.000
		Sig. (2-tailed)	.000	.
		N	64	64

**. Correlation is significant at the 0.01 level (2-tailed).

4.3 Status yodium dengan fungsi tiroid

Correlations

			UIE	TSH
Spearman's rho	UIE	Correlation Coefficient	1.000	-.135
		Sig. (2-tailed)	.	.287
		N	64	64
TSH		Correlation Coefficient	-.135	1.000
		Sig. (2-tailed)	.287	.
		N	64	64

Correlations

			UIE	FT4
Spearman's rho	UIE	Correlation Coefficient	1.000	-.136
		Sig. (2-tailed)	.	.282
		N	64	64
	FT4	Correlation Coefficient	-.136	1.000
		Sig. (2-tailed)	.282	.
		N	64	64

4.4 Status yodium dengan mRNA gen FoxE1

Correlations

			HgUIE	mRNA
Spearman's rho	HgUIE	Correlation Coefficient	1.000	.806**
		Sig. (2-tailed)	.	.000
		N	64	64
	mRNA	Correlation Coefficient	.806**	1.000
		Sig. (2-tailed)	.000	.
		N	64	64

**. Correlation is significant at the 0.01 level (2-tailed).

V. UJI REGRESI LINIER BERGANDA

5.1 Hg-defisiensi yodium dengan ekspresi mRNA gen FoxE1

Variables Entered/Removed^a

Model	Variables Entered	Variables Removed	Method
1	UIE, Hganak ^b	.	Enter

a. Dependent Variable: mRNA

b. All requested variables entered.

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.674 ^a	.455	.437	1.54992

a. Predictors: (Constant), UIE, Hganak

b. Dependent Variable: mRNA

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	122.125	2	61.063	25.419	^b .000
	Residual	146.537	61	2.402		
	Total	268.663	63			

a. Dependent Variable: mRNA

b. Predictors: (Constant), UIE, Hganak

Coefficients^a

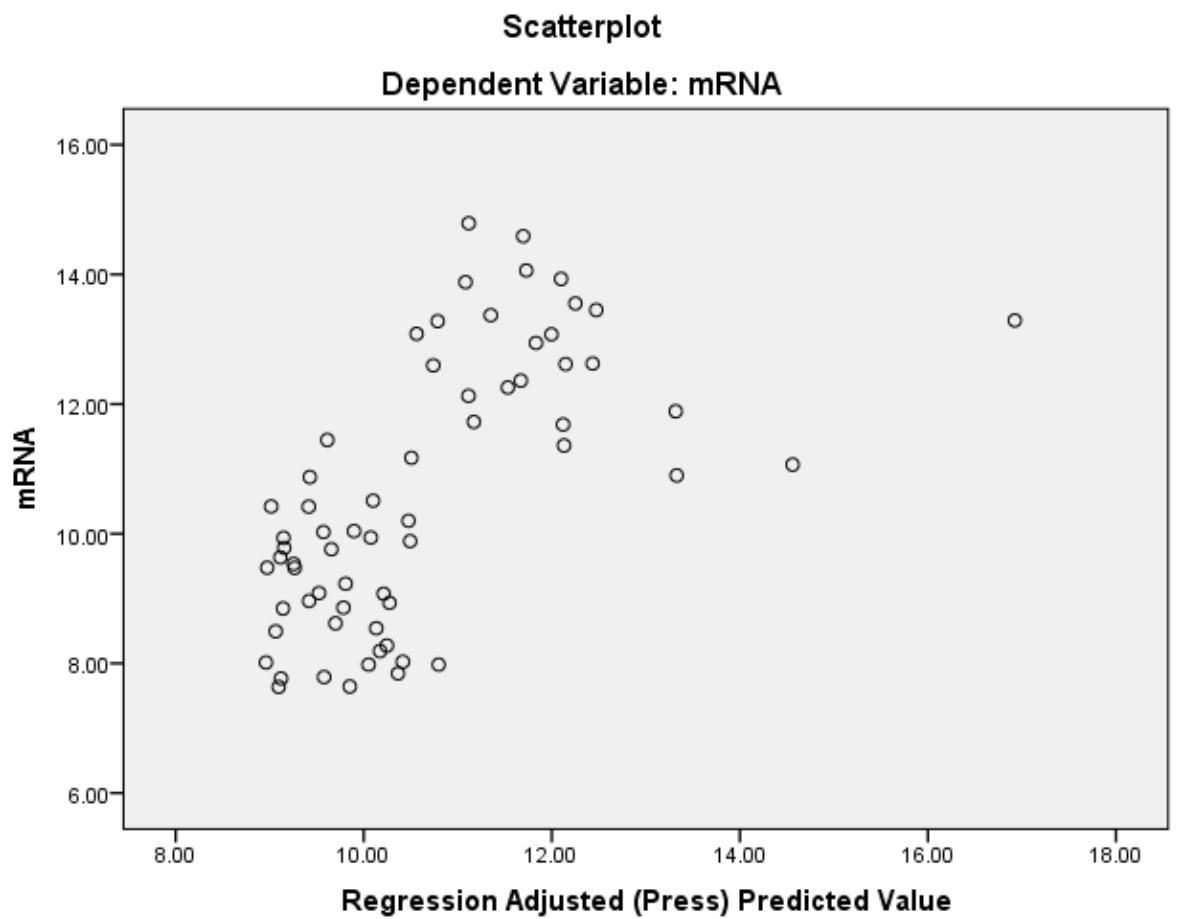
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	8.349	.381		21.913	.000
Hganak	.003	.005	.070	.734	.466
UIE	.014	.002	.662	6.947	.000

a. Dependent Variable: mRNA

Residuals Statistics^a

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	8.9231	15.9319	10.6064	1.39230	64
Std. Predicted Value	-1.209	3.825	.000	1.000	64
Standard Error of Predicted Value	.194	1.265	.299	.153	64
Adjusted Predicted Value	8.9607	16.9240	10.6409	1.49071	64
Residual	-3.07615	3.58910	.00000	1.52512	64
Std. Residual	-1.985	2.316	.000	.984	64
Stud. Residual	-2.116	2.343	-.009	1.012	64
Deleted Residual	-3.63302	3.67307	-.03450	1.62110	64
Stud. Deleted Residual	-2.180	2.435	-.010	1.025	64
Mahal. Distance	.000	41.001	1.969	5.412	64
Cook's Distance	.000	.500	.023	.070	64
Centered Leverage Value	.000	.651	.031	.086	64

a. Dependent Variable: mRNA



5.2 Hg-defisiensi yodium dengan Fungsi tiroid

Variabel dependent TSH

Variables Entered/Removed^a

Model	Variables Entered	Variables Removed	Method
1	UIE, Hganak ^b	.	Enter

- a. Dependent Variable: TSHs
b. All requested variables entered.

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.191 ^a	.036	.005	1.07325

- a. Predictors: (Constant), UIE, Hganak
b. Dependent Variable: TSHs

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2.658	2	1.329	1.154	.322 ^b
	Residual	70.264	61	1.152		
	Total	72.921	63			

- a. Dependent Variable: TSHs
b. Predictors: (Constant), UIE, Hganak

Coefficients^a

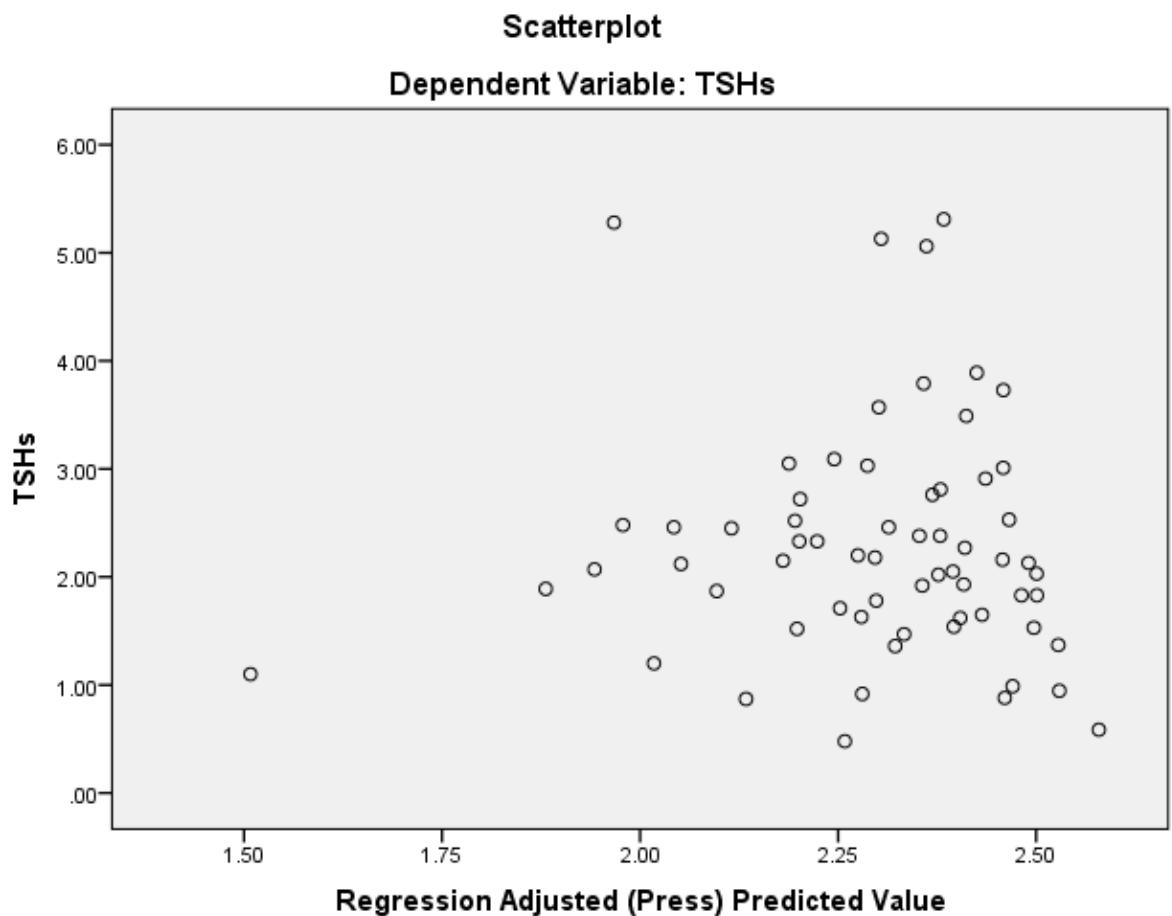
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	2.601	.264		9.858	.000
Hganak	-.004	.003	-.143	-1.129	.263
UIE	-.001	.001	-.110	-.869	.388

a. Dependent Variable: TSHs

Residuals Statistics^a

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	1.2361	2.5091	2.2929	.20539	64
Std. Predicted Value	-5.145	1.052	.000	1.000	64
Standard Error of Predicted Value	.134	.876	.207	.106	64
Adjusted Predicted Value	1.5082	2.5791	2.2981	.18803	64
Residual	-1.91924	3.16862	.00000	1.05608	64
Std. Residual	-1.788	2.952	.000	.984	64
Stud. Residual	-1.822	3.019	-.002	1.001	64
Deleted Residual	-1.99312	3.31294	-.00522	1.09329	64
Stud. Deleted Residual	-1.859	3.246	.007	1.031	64
Mahal. Distance	.000	41.001	1.969	5.412	64
Cook's Distance	.000	.138	.012	.023	64
Centered Leverage Value	.000	.651	.031	.086	64

a. Dependent Variable: TSHs



Variabel dependent FT4

Variables Entered/Removed^a

Model	Variables Entered	Variables Removed	Method
1	UIE, Hganak ^b	.	Enter

a. Dependent Variable: FT4

b. All requested variables entered.

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.157 ^a	.025	-.007	.14250

a. Predictors: (Constant), UIE, Hganak

b. Dependent Variable: FT4

ANOVA^a

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	.031	2	.016	.767	.469 ^b
Residual	1.239	61	.020		
Total	1.270	63			

a. Dependent Variable: FT4

b. Predictors: (Constant), UIE, Hganak

Coefficients^a

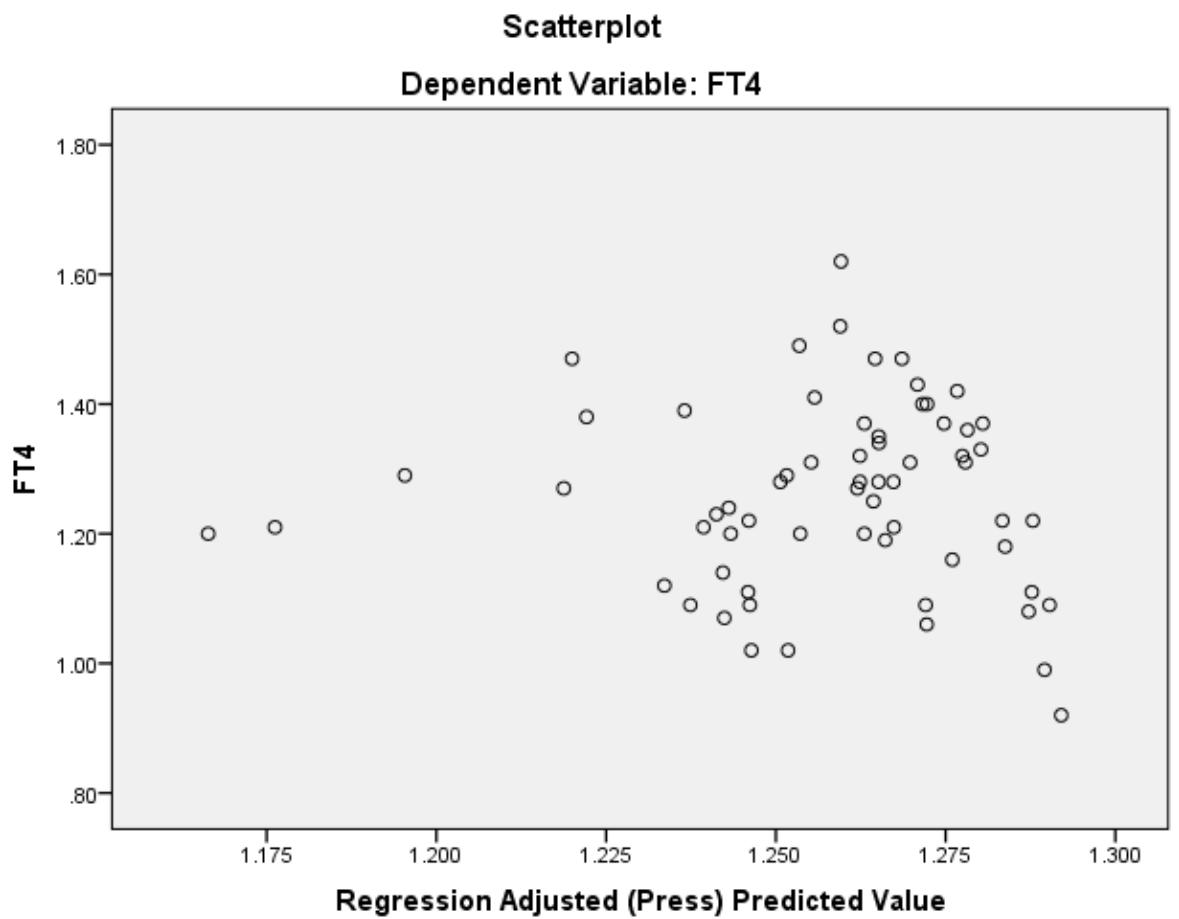
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	1.295	.035		36.977	.000
Hganak	.000	.000	-.063	-.496	.622
UIE	.000	.000	-.136	-1.065	.291

a. Dependent Variable: FT4

Residuals Statistics^a

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	1.1855	1.2851	1.2580	.02224	64
Std. Predicted Value	-3.261	1.222	.000	1.000	64
Standard Error of Predicted Value	.018	.116	.027	.014	64
Adjusted Predicted Value	1.1664	1.2920	1.2577	.02492	64
Residual	-.36027	.35360	.00000	.14022	64
Std. Residual	-2.528	2.481	.000	.984	64
Stud. Residual	-2.569	2.505	.001	1.000	64
Deleted Residual	-.37203	.36040	.00028	.14498	64
Stud. Deleted Residual	-2.698	2.623	.000	1.017	64
Mahal. Distance	.000	41.001	1.969	5.412	64
Cook's Distance	.000	.072	.011	.015	64
Centered Leverage Value	.000	.651	.031	.086	64

a. Dependent Variable: FT4



VI. UJI RISK RATIO KELAINAN HORMON TIROID

6.1 RISIKO PAJANAN MERKURI TINGGI DENGAN YODIUM NORMAL

Klpkhipotiroid * HgTYN Crosstabulation

Count

	HgTYN		Total
	0	1	
Klpkhipotiroid	0	38	58
	1	3	6
Total	41	23	64

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	.569 ^a	1	.451		
Continuity Correction ^b	.094	1	.759		
Likelihood Ratio	.548	1	.459		
Fisher's Exact Test				.658	.368
Linear-by-Linear Association	.560	1	.454		
N of Valid Cases	64				

a. 2 cells (50.0%) have expected count less than 5. The minimum expected count is 2.16.

b. Computed only for a 2x2 table

Risk Estimate

	Value	95% Confidence Interval	
		Lower	Upper
Odds Ratio for Klpkhipotiroid (0 / 1)	1.900	.351	10.291
For cohort HgTYN = 0	1.310	.576	2.980
For cohort HgTYN = 1	.690	.287	1.655
N of Valid Cases	64		

6.2. PAJANAN MERKURI TINGGI YODIUM RENDAH

HgTYR * Klpkhipotiroid Crosstabulation

		Klpkhipotiroid		Total
		0	1	
HgTYR	0	Count	25	3
		% within HgTYR	89.3%	10.7%
		% within Klpkhipotiroid	43.1%	50.0%
		% of Total	39.1%	4.7%
	1	Count	33	3
		% within HgTYR	91.7%	8.3%
		% within Klpkhipotiroid	56.9%	50.0%
		% of Total	51.6%	4.7%
Total		Count	58	6
		% within HgTYR	90.6%	9.4%
		% within Klpkhipotiroid	100.0%	100.0%
		% of Total	90.6%	9.4%

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	.105 ^a	1	.746		
Continuity Correction ^b	.000	1	1.000		
Likelihood Ratio	.104	1	.747		
Fisher's Exact Test				1.000	.536
Linear-by-Linear Association	.103	1	.748		
N of Valid Cases	64				

a. 2 cells (50.0%) have expected count less than 5. The minimum expected count is 2.63.

b. Computed only for a 2x2 table

Risk Estimate

	Value	95% Confidence Interval	
		Lower	Upper
Odds Ratio for HgTYR (0 / 1)	.758	.141	4.075
For cohort Klpkhipotiroid = 0	.974	.829	1.145
For cohort Klpkhipotiroid = 1	1.286	.281	5.891
N of Valid Cases	64		

6.3 PAJANAN MERKURI TINGGI DENGAN YODIUM TINGGI

HgTYT * Klpkhipotiroid Crosstabulation

			Klpkhipotiroid		Total
			0	1	
HgTYT	0	Count	52	5	57
		% within HgTYT	91.2%	8.8%	100.0%
		% within Klpkhipotiroid	89.7%	83.3%	89.1%
		% of Total	81.3%	7.8%	89.1%
	1	Count	6	1	7
		% within HgTYT	85.7%	14.3%	100.0%
		% within Klpkhipotiroid	10.3%	16.7%	10.9%
		% of Total	9.4%	1.6%	10.9%
Total		Count	58	6	64
		% within HgTYT	90.6%	9.4%	100.0%
		% within Klpkhipotiroid	100.0%	100.0%	100.0%
		% of Total	90.6%	9.4%	100.0%

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	.223 ^a	1	.637		
Continuity Correction ^b	.000	1	1.000		
Likelihood Ratio	.199	1	.656		
Fisher's Exact Test				.516	.516
Linear-by-Linear Association	.220	1	.639		
N of Valid Cases	64				

a. 1 cells (25.0%) have expected count less than 5. The minimum expected count is .66.

b. Computed only for a 2x2 table

Risk Estimate

	Value	95% Confidence Interval	
		Lower	Upper
Odds Ratio for HgTYT (0 / 1)	1.733	.173	17.416
For cohort Klpkhipotiroid = 0	1.064	.778	1.455
For cohort Klpkhipotiroid = 1	.614	.083	4.530
N of Valid Cases	64		

6.4. YODIUM RENDAH

YR * Klpkhipotiroid Crosstabulation

			Klpkhipotiroid		Total	
			0	1		
YR	0	Count	23	3	26	
		% within YR	88.5%	11.5%	100.0%	
		% within Klpkhipotiroid	39.7%	50.0%	40.6%	
		% of Total	35.9%	4.7%	40.6%	
	1	Count	35	3	38	
		% within YR	92.1%	7.9%	100.0%	
		% within Klpkhipotiroid	60.3%	50.0%	59.4%	
		% of Total	54.7%	4.7%	59.4%	
Total		Count	58	6	64	
		% within YR	90.6%	9.4%	100.0%	
		% within Klpkhipotiroid	100.0%	100.0%	100.0%	
		% of Total	90.6%	9.4%	100.0%	

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	.241 ^a	1	.623		
Continuity Correction ^b	.003	1	.956		
Likelihood Ratio	.237	1	.626		
Fisher's Exact Test				.680	.469
Linear-by-Linear Association	.237	1	.626		
N of Valid Cases	64				

a. 2 cells (50.0%) have expected count less than 5. The minimum expected count is 2.44.

b. Computed only for a 2x2 table

Risk Estimate

	Value	95% Confidence Interval	
		Lower	Upper
Odds Ratio for YR (0 / 1)	.657	.122	3.542
For cohort Klpkhipotiroid = 0	.960	.813	1.135
For cohort Klpkhipotiroid = 1	1.462	.319	6.686
N of Valid Cases	64		

