BAB V

KESIMPULAN DAN SARAN

5.1 Kesimpulan

Hasil penelitian yang telah dilakukan pada 50 santriwan yang dijadikan obyek penelitian, didapatkan semua hasil *HbsAg* negatif sebanyak 50 sampel (100%).

5.2 Saran

Berikut ini adalah beberapa saran yang bisa dijadikan bahan pertimbangan antara lain :

a. Pondok Pesantren Ad-Dhuha, Gentan, Baki, Sukoharjo.
    1. Diperlukan suatu tindakan pencegahan penularan Hepatitis B pada santri di Pondok Pesantren Ad-Dhuha Gentan, Baki, Sukoharjo salah satunya dengan cara melakukan pemeriksaan *HbsAg* kepada setiap calon santri. Tindakan lain yang bisa dilakukan oleh pihak Pondok Pesantren adalah memberikan vaksin Hepatitis B pada santriwan Pondok Pesantren Ad-Dhuha, Gentan, Baki, Sukoharjo.
    2. Santriwan di harapkan mencuci seluruh alat-alat pribadi dengan baik.
    3. Santriwan di harapkan meningkatkan kewaspadaan terhadap penyebaran Hepatitis B saat kontak langsung dengan penderita Hepatitis B agar tidak tertular dengan santri yang lain.

b. Bagi penelitian selanjutnya

Bagi penelitian selanjutnya disarankan agar melakukan pemeriksaan *HbsAg* pada santri tinggkat tsanawiyah ataupun Aliyah baik tingkat 1,2 atau 3 mengingat tingginya resiko penularan hepatitis di lingkungan pesantren.

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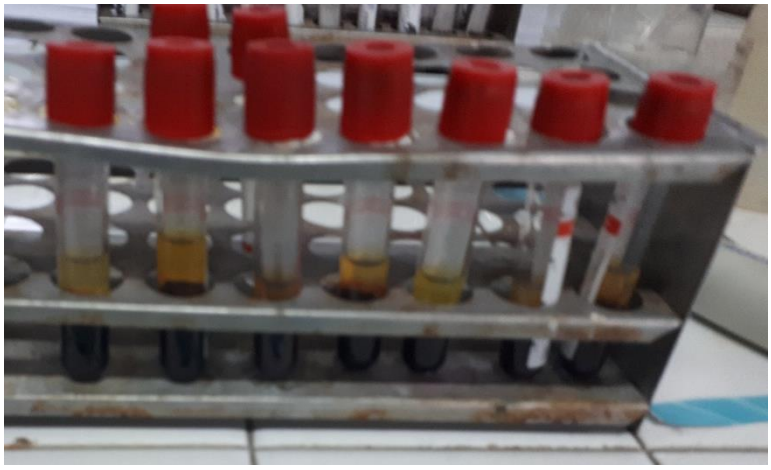
Lampiran 1. Hasil pemeriksaan *HbsAg*

No	Nama Santriwan	Jenis Kelamin	Hasil
1	NY	Laki-laki	Negatif (Non Reaktif)
2	FA	Laki-laki	Negatif (Non Reaktif)
3	MSRH	Laki-laki	Negatif (Non Reaktif)
4	B	Laki-laki	Negatif (Non Reaktif)
5	AA	Laki-laki	Negatif (Non Reaktif)
6	HAAM	Laki-laki	Negatif (Non Reaktif)
7	MARI	Laki-laki	Negatif (Non Reaktif)
8	AS	Laki-laki	Negatif (Non Reaktif)
9	AL	Laki-laki	Negatif (Non Reaktif)
10	MFAP	Laki-laki	Negatif (Non Reaktif)
11	YIB	Laki-laki	Negatif (Non Reaktif)
12	JSBSK	Laki-laki	Negatif (Non Reaktif)
13	DAN	Laki-laki	Negatif (Non Reaktif)
14	AD	Laki-laki	Negatif (Non Reaktif)
15	AM	Laki-laki	Negatif (Non Reaktif)
16	BSN	Laki-laki	Negatif (Non Reaktif)
17	AK	Laki-laki	Negatif (Non Reaktif)
18	MAN	Laki-laki	Negatif (Non Reaktif)
19	AY	Laki-laki	Negatif (Non Reaktif)
20	ZM	Laki-laki	Negatif (Non Reaktif)
21	ISR	Laki-laki	Negatif (Non Reaktif)
22	AIKH	Laki-laki	Negatif (Non Reaktif)
23	JW	Laki-laki	Negatif (Non Reaktif)
24	LN	Laki-laki	Negatif (Non Reaktif)
25	F	Laki-laki	Negatif (Non Reaktif)
26	S	Laki-laki	Negatif (Non Reaktif)
27	WP	Laki-laki	Negatif (Non Reaktif)
28	QAN	Laki-laki	Negatif (Non Reaktif)
29	MSBA	Laki-laki	Negatif (Non Reaktif)
30	MA	Laki-laki	Negatif (Non Reaktif)
31	ARD	Laki-laki	Negatif (Non Reaktif)
32	KEF	Laki-laki	Negatif (Non Reaktif)
33	EK	Laki-laki	Negatif (Non Reaktif)
34	AMF	Laki-laki	Negatif (Non Reaktif)
35	G	Laki-laki	Negatif (Non Reaktif)
36	MSB	Laki-laki	Negatif (Non Reaktif)
37	N	Laki-laki	Negatif (Non Reaktif)
38	FA	Laki-laki	Negatif (Non Reaktif)
39	ATL	Laki-laki	Negatif (Non Reaktif)
40	RK	Laki-laki	Negatif (Non Reaktif)
41	AZ	Laki-laki	Negatif (Non Reaktif)
42	FAK	Laki-laki	Negatif (Non Reaktif)

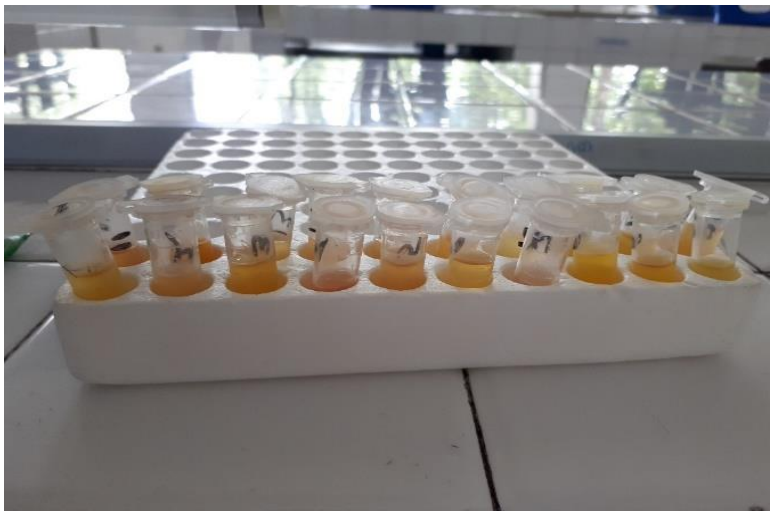
43	WB	Laki-laki	Negatif (Non Reaktif)
44	RYP	Laki-laki	Negatif (Non Reaktif)
45	RA	Laki-laki	Negatif (Non Reaktif)
46	ATS	Laki-laki	Negatif (Non Reaktif)
47	N	Laki-laki	Negatif (Non Reaktif)
48	R	Laki-laki	Negatif (Non Reaktif)
49	R	Laki-laki	Negatif (Non Reaktif)
50	MH	Laki-laki	Negatif (Non Reaktif)

Gambar 1. Pengambilan Darah Vena

Gambar 2. pengambilan darah Vena

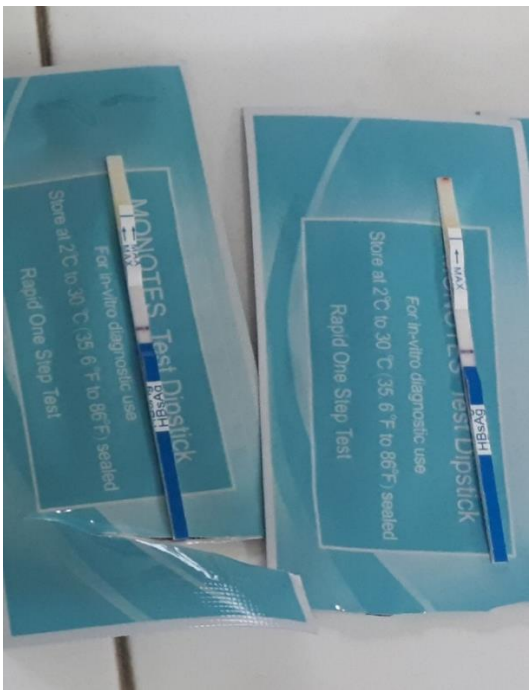


Gambar 3. Serum yang belum di pisahkan



Gambar 4. Serum yang telah di pisahkan

Gambar 8. Hasil pemeriksaan *HbsAg*



Gambar 9. Hasil pemeriksaan *HbsAg*

Gambar 10. Hasil pemeriksaan *HbsAg*

Lampiran 2. Kit *HbsAg* Merk Mono Test

PACKAGE INSERT
MONOTES HBsAg Test Strip
(Serum/Plasma)

INTENDED USE

MONOTES HBsAg Test Strip is a rapid chromatographic Immunoassay for the qualitative detection of Hepatitis B Surface Antigen in serum or plasma. It is for professional in vitro diagnostic use only.

INTRODUCTION

Viral hepatitis is a systemic disease primarily involving the liver. Most cases of acute viral hepatitis are caused by Hepatitis A virus, Hepatitis B virus (HBV) or Hepatitic C virus. The complex antigen found on the surface of HBV is called HBsAg. The presence of HBsAg in serum or plasma is an indication of an active Hepatitis B infection, either acute orchronic. In a typical Hepatitis B infection, HBsAg will be detected 2 to 4 weeks before the ALT level becomes abnormal and 3 to 5 weeks before symptoms or jaundice develop. HBsAg has four principal subtypes: adw, ayw, adr and ayr. Because of antigenic heterogeneity of the determinant, there are 10 major serotypes of Hepatitis B virus. The test utilizes a combination of monoclonal antibodies to selectively detect elevated levels of HBsAg in serum or plasma.

PRINCIPLE

MONOTES HBsAg Test Strip is a lateral flow chromatographic Immunoassay based on the principle of the double antibody–sandwich technique. The membrane is pre-coated with anti-HBsAg antibodies on the test line region of the test. During testing, the specimen (serum or plasma) reacts with the particle coated with anti-HBsAg antibody. The mixture migrates upward on the membrane chromatographically by capillary action to react with anti-HBsAg antibodies on the membrane and generate a colored line. The presence of this colored line in the test region indicates a positive result, while its absence indicates a negative result. To serve as a procedural control, a colored line will always appear in the control line region indicating that the proper volume of specimen has been added and membrane wicking has occurred.

PRODUCT CONTENTS

The Hepatitis B Surface Antigen Test (Serum/Plasma) containing anti-HBsAg particles and anti-HBsAg coated on the membrane.

MATERIALS SUPPLIED

1. Test Strip
2. Desiccant
3. Package Insert

MATERIAL REQUIRED BUT NOT PROVIDED

1. Clock or Timer
2. Specimen Collection Containers

STORAGE AND STABILITY

All reagents are ready to use as supplied. Store unused test device at 2°C-30°C. If stored at 2°C - 8°C, ensure that the test device is brought to room temperature before opening. The test device is not stable out of the expiration date printed on the sealed pouch. Do not freeze the kit or expose the kit over 30°C.

WARNINGS AND PRECAUTIONS

1. For professional In Vitro diagnostic use only.
2. Warning: the reagents in this kit contain sodium azide which may react with lead or copper plumbing to form potentially explosive metal azides. When disposing of such reagents, always flush with large volumes of water to prevent azide build-up.
3. Do not use it if the tube/pouch is damaged or broken.
4. Test is for single use only. Do not re-use under any circumstances.
5. Handel all specimens as if they contain infectious agents. Observe established standard procedure for proper disposal of specimens
6. Wear protective clothing such as laboratory coats, disposable gloves and eye protection when specimens are assay.
7. Humidity and temperature can adversely affect results

SPECIMEN COLLECTION

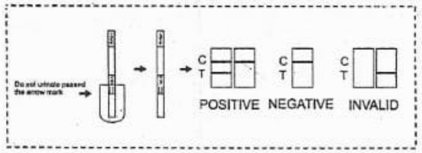
1. **The Hepatitis B Surface Antigen Test (Serum/Plasma)** can be performed using serum or plasma.
2. Separate the serum or plasma from blood as soon as possible to avoid haemolysis. Only clear, non-haemolysed specimens can be used.
3. Testing should be performed immediately after the specimens have been collected. Do not leave the specimens at room temperature for prolonged periods. Specimens may be stored at 2°C - 8°C for up to 3 days. For long term storage, specimens should be kept below - 20°C.
4. Bring specimens to room temperature prior to testing. Frozen specimens must be completely thawed and mixed well prior to testing. Specimens should not be frozen and thawed repeatedly.
5. If specimens are to be shipped, they should be packed in compliance with federal, state or local regulations for the transportation of etiologic agents.

TEST PROCEDURE

Allow the test, specimen, and/or controls to reach room temperature (15°C - 30°C) prior to testing.

1. Remove the test from the foil pouch and use it as soon as possible. Best results will be obtained if the assay is performed within one hour.
2. Place the strip in serum or plasma for at least 10 seconds until thoroughly wet. Do not urinate passed the arrow mark.
3. Wait for color bands to appear.
4. Wait for the colored line(s) to appear. Read results in 15 minutes. Do not interpret the result after 15 minutes.

INTERPRETATION OF RESULTS



Positive : Two lines appear. One colored line should be in the control line region © and another apperent colored line should be in the test line region (T).
Negative : One colored line appears in the control line region©. No line appears in the test line region (T).
Invalid : Control line fails to appear.

QUALITY CONTROL

A procedural control is included in the test. A red line appearing in the control region © is the internal procedural control. It confirms sufficient specimen volume and correct procedural technique. Control standards are not supplied with this kit. However, it is recommended that a positive control (containing 10 µg/mL HBsAg) and a negative control (containing 0µg/mL HBsAg) are sourced from a local competent authority and tested as a good laboratory practice to confirm the test procedure and to verify proper test performance.

LIMITATIONS

1. **The Hepatitis B Surface Antigen Test (Serum/Plasma)** is Professional for In vitro diagnostic use only. This test should be used for the detection of HBsAg in serum or plasma specimen.
2. **The Hepatitis B Surface Antigen Test (Serum/Plasma)** will only indicate the presence of HBsAg in the specimen and should not be used as the sole criteria for the diagnosis of Hepatitis B viral infection.
3. As with all diagnostic tests, all results must be considered with other clinical information available to the physician.
4. **The Hepatitis B Surface Antigen Test (Serum/Plasma)** cannot detect less than 1µg/mL of HBsAg in specimens. If the test result is negative and clinical symptoms persist, additional follow-up testing using other clinical methods is suggested. A negative result at any time does not preclude the possibility of Hepatitis B infection.

PERFORMANCE CHARACTERISTICS

Sensitivity

The Hepatitis B Surface Antigen Test (Serum/Plasma) has been tested with a sensitivity panel ranging from 0 to 300 µg/mL. All 10 HBsAg subtypes produced positive results on the Hepatitis B Surface Antigen Test. The test can detect 5µg/mL of HBsAg in 10-15 minutes, and 1µg/mL of HBsAg in 20 minutes.

Specificity

Antibodies used for The Hepatitis B Surface Antigen Test (Serum/Plasma) were developed against whole Hepatitis B antigen isolated from Hepatitis B virus. Specificity of the HBsAg Rapid Hepatitis B Surface Antigen Test was also tested with laboratory strains of Hepatitis A and Hepatitis C. They all yielded negative results. Results showed the Hepatitis B Surface Antigen Test (Serum/Plasma) vs. EIA

Method		EIA		Total Results
HBsAg Test Device	Results	Positive	Negative	
	Positive	300	5	305
	Negative	2	300	302
Total Results		302	305	607

Relative sensitivity: 99.3%
Relative specificity: 98.36%
Accuracy: 98.85%

REFERRENCE

1. Blumberg, B. S. The Discovery of Australian Antigen and its relation to viral hepatitis. Vitro. 1971; 7: 223

INDEX OF SYMBOLS

	Consult instructions for use		Tests per kit		Authorized Representative
	For in vitro diagnostic use only		Use by		Do not reuse
2°C–30°C	Store between 2~30°C	LOT	Lot Number	REF	Catalog#

Manucfature by :

Zhejiang Orient Gene Biotech Co.,Ltd
Zhejiang - China

Importir and Distributor :

PT. Bintang Mono Indonesia
Tanggerang - Indonesia

KEMENKES RI AKL 20305413490

Lampiran 3. Surat Izin Permohonan Sampel

UNIVERSITAS SETIA BUDI
FAKULTAS ILMU KESEHATAN

Nomor : 458 / H6 – 04 / 18.11.2018
Lamp. : - helai
Hal : *Ijin Permohonan Sampel*

Kepada :
Yth. Pengurus
Pondok Pesantren Ad - Dhuha
Gentan Baki Sukoharjo

Dengan Hormat,

Guna memenuhi persyaratan untuk keperluan penyusunan Karya Tulis Ilmiah (KTI) bagi Mahasiswa Semester Akhir Program Studi D-III Analis Kesehatan Fakultas Ilmu Kesehatan Universitas Setia Budi, terkait bidang yang ditekuni dalam melaksanakan kegiatan tersebut bersamaan dengan ini kami menyampaikan ijin bahwa :

NAMA : Sholekha Ayu Setya Putri
NIM : 34162968 J
PROGDI : D-III Analis Kesehatan
JUDUL : Pemeriksaan HbsAg pada Santri di Pondok Pesantren Ad - Dhuha Gentan, Baki, Sukoharjo Metode *Rapid Test*

Untuk ijin permohonan sampel darah pada santri (responden 50 sampel) di Instansi Bapak/Ibu.

Demikian atas bantuan dan kerjasamanya kami ucapkan terima kasih.

Surakarta, 18 November 2018
Dekan,

UNIVERSITAS SETIA BUDI FAKULTAS ILMU KESEHATAN

Prof. dr. Marsetyawan HNE Soesatyo, M.Sc., Ph.D.

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