

**An-Najah National University
Faculty of Graduate Studies**

**Evaluation of Health Notification System
for Hepatitis B between Palestinian
Ministry of Health and Private Sector**

**By
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**This Thesis is Submitted in Partial Fulfillment of the
Requirements for the Degree of Master of Public Health,
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University, Nablus, and Palestine.**

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This thesis was defended successfully on 03/03/2021 and approved by:

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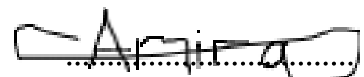
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Dedication

I dedicate this word to my family ...

Acknowledgments

Thank you for your support and love ... I also thank my supervisor who supported me with all his constructive feedback which enabled me to complete this work. Finally, I thank my friends who have been a great support for me. Thank you all for your love and support.

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الإقرار

أنا الموقع أدناه مقدم الرسالة التي تحمل العنوان:

تقييم نظام الرصد الصحي لمرض الكبد الوبائي

فيورس "ب" بين وزارة الصحة الفلسطينية والقطاع الخاص

Evaluation of Health Notification System for Hepatitis B between Palestinian Ministry of Health and Private Sector

أقر بأن ما اشتملت عليه الرسالة إنما هي نتاج جهدي الخاص، باستثناء ما تم الإشارة إليه
حيثما ورد، وإن هذه الرسالة ككل، أو أي جزء منها لم يقدم من قبل لنيل أية درجة علمية أو بحث
علمي أو بحثي لدى أية مؤسسة تعليمية أو بحثية أخرى.

Declaration

The work provided in this thesis unless otherwise referenced is the
researcher's work, and has not been submitted elsewhere for any other
degree or qualification.

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03/03/2021

التاريخ

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**Evaluation of Health Notification System for Hepatitis B between
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Abstract

Introduction: Hepatitis B is a viral disease that can cause acute and chronic infections in the liver. Chronic hepatitis is the most common cause of liver cancer in the world. The virus is transmitted through blood and sexual contact. Worldwide most chronic carriers have contracted the virus in utero or during birth.

Aim: Evaluation of Health notification system for hepatitis B between Palestinian Ministry of Health and private sector

Methods: A cross-session study will be conducted to assess the efficiency of the reporting and communicating system of the positively tested patients for hepatitis B between the private sectors and the Palestinian Ministry of Health.

Results: hepatitis B cases are Detected and reported To the Ministry of Health, all of the participants with a percentage of 100% send the report as a reporting for the positive cases as well as the response of the PMOH in the third part of the questionnaire in the question number two answered that they receive all of the monthly reported cases they have been sent by the private sectors.

Conclusion: After reviewing different articles on hepatitis b cases and how do the other countries can report each positive case when can conclude that the Palestinian ministry of health reporting system needs improvements on many different levels which they can facilitate and make the follow-up and detecting process faster than the currently used system

Chapter One

Introduction

Hepatitis B (HB) is a disease-causing severe and long-lasting infections in the liver. It is the main cause of liver cancer. Three doses of Hepatitis B Vaccine (HBV) are required to confirm long-life protection. As a result, a blood test is required to reveal if the person is an infected, immune, or chronic carrier.

HBV was introduced to EIP in 1992-1993 with the first dose given at birth. High HBV vaccine coverage was reported during the last 10 year (~98-100) need a reference from PMOH. The diagnosis of HBV is usually based on clinical signs and symptoms and laboratory tests. Furthermore, serological laboratory tests aid in HBV differential diagnosis (acute Cases “ACC” and Chronic Carriers “Chrcc”. (Tatsilong et al., 2016).

HBV is a viral disease that is transmitted via sexual discourse. The contraction of the HBV occurs mostly at birth, so newborns are immune to this disease by taking the HB vaccine early to get long-term protection. Consequently, it is necessary to have a blood test to show the status of patients’ including infected, immune, or chronic carriers. In 2006, the first dose of the vaccine covered 90% in the West Bank; 104% in 2010. Similarly, the third does varied in its coverage throughout years including 91% in 2006; 101% in 2010 and 2011. (Institute of Medicine. 2010)

Hepatitis B infection is caused by hepatitis B virus (HBV), a single, partially double-stranded DNA virus from the hepadnaviridae family. Worldwide, it is estimated that about 2 billion people are infected with HBV. Currently, more than 350 - 400 million are chronic carriers of the virus. HBV infection is one of the most common causes of hepatocellular carcinoma, which is among the top ten cancers worldwide (1-4). The safest and most effective method for the prevention of HBV infection is vaccination. Hepatitis B vaccine has been available since 1982. By the year 2008, more than 177 countries had implemented a hepatitis B vaccination program (Dumaidi et al .,2015).

Health care public providers may be distracted by the double role of their governmental officials since the management structure of the public sector grants few incentives to individuals or healthcare providers. They don't have up-to-date health information systems concerning discharge data this makes the healthcare system weak as it is hard to implement an efficient system of local accountability.

The system and its cost are taken from patients as expenditure that the budget of the MOH depends on donation targeting whoever needs healthcare in the governmental sector. Likewise, Health insurance benefits should present appropriate health services to people, for example, the healthcare system should take care of patients even though they are in private sector hospitals. Patients should be able to move and receive health care because health infrastructure should develop further. If that doesn't

happen, there is a weakness in the health system management. (The Palestinian National Institute of Public Health, 2018)

ACC and ChrCc HBV infections are reported separately in the West Bank and Gaza Strip. (Health, 2018)

Table (1.1): Reported cases of AC and CC HB, Palestine, 2009-2012

2009*				2010			2011*			2012		
	Ac.	Chr.	Tot.	Ac.	Chr.	Tot.	Ac.	Chr.	Tot.	Ac.	Chr.	Tot.
West Bank	21	1,037		27	966		23	847		26	804	
Rate	0.9	42.3		1.2	42.4		0.9	32.8		1	30	
Gaza strip			357			407			375			354
Rate			24			26.5			23H.6			21.2

Ac.: Acute, Chr.: Chronic; Tot.: Total

The rates are per 100,000 populations

*Some of the numbers from the years 2009 and 2011 have been updated and are not identical with the numbers in the Annual report of that year (Health, 2018).

History Hepatitis B Complications:

HB is a viral disease that takes down the liver causing acute and chronic disease that is transmitted through contact with blood or other body fluid. According to the WHO, more than 257 million people are having HB in 2015 causing 887000 deaths mostly from cirrhosis and hepatic-cellular carcinoma (i.e. liver cancer). In 2016, 27 million (10.5) people were infected with HBV while 4.5 million (16.7%) of them were on the treatment list. HB can be prevented by vaccines that are safe, available, and efficient. (WHO, 2019)

This disease is life-threatening and one of the main health issues in the world with the possibility of the death of the patient from chronic liver cancer. HB vaccines are safe and offering 98-100% protection from liver cancer.

Screening and diagnosis of Hepatitis B:

It is impossible to recognize HB in field, but blood test samples should be sent to laboratories to be diagnosed to see if patients have acute or chronic infections. (Mel Krajden, et al, 2005) Laboratories detect HB surface antigen HbsAg. It is recommended that all blood donations should be checked to avoid HBV transmission via blood. (Mel Krajden, et al, 2005).

Acute HBV is detected by the existence of HbsAg and immunoglobulin (IgM) antibodies to the core antigen, HBsAg. In the first stage of infection, patients are also seropositive for hepatitis B e antigen (HBeAg). HBeAg is usually a marker of high levels of replication of the virus. The presence of HBeAg indicates that the blood and body fluids of the infected individual are highly infectious (WHO, 2019).

Chronic infection is characterized by the persistence of HBsAg for at least 6 months (with or without concurrent HBeAg). The persistence of HBsAg is the principal marker of risk for developing chronic liver disease and liver cancer (hepatocellular carcinoma) later in life. (Jain Dogra et. al., 2012).

Protocol of Palestinian Ministry of Health for HB:

There is no identified cure for AC-HB, but it can be treated with medicines including oral agents causing slow progression of cirrhosis, reduce the incidence of liver cancer and improve long-term survival. Oral treatments - tenofovir or entecavir- are the most applicable drug to suppress HBV as reported by WHO. (CDC, 2018)

All low and middle-income countries but the costs and availability varied widely in 2017. In 2016, of the 257 million people living with HBV infection, 10.5% were aware of their infection. Of those diagnosed, the global treatment coverage is 16.7%. (CDC, 2019)

Once people have advanced conditions in liver disease, they are tested for HB and mostly get HBV treatment. Patients' life span varies according to the country that in poor countries, they die hoping for accurate diagnosis. However, in rich countries, some surgeries and treatments prolong patients' life by live transplantation. (Health, 2017)

Vaccination of HB:

HB vaccine is mainly for prevention, so WHO recommends giving all infants HB vaccines after birth within 24 hours. Their third dose covered 84% in 2017. For this reason, in 2015, there was the lowest rate of HB in the case of children below 5.

A 3-dose schedule of hepatitis B vaccine, with the first dose (monovalent) given at birth and the second and third doses (monovalent or combined vaccine) given at the same time as the first and third doses of diphtheria, pertussis (whooping cough), and tetanus – (DTP vaccine); or a 4-dose schedule, where a monovalent birth dose is followed by 3 monovalent or combined vaccine doses, usually given with other routine infant vaccines.

This way, more people should be given the vaccine since it is a safe way of HB prevention that since 1982, over 1 billion doses of the vaccine were used around the world reducing the rate of HB to less than 1% among immunized children. Also, assuring that blood donation samples are HB-free is another way of HB prevention. Finally, making sure injections are not infected is another way of HB prevention in hospitals.

The blood bank and the situation of the disease in Palestine since Israel occupation and related statistics:

There are 203 laboratories in the West Bank including 14 labs in hospitals and 188 in the main health centers. In 2016, 565 technicians were working in the Palestinian health laboratories, 60 technicians work in private blood banks. All these labs have done more than 7,246,847 laboratory tests. About 32,502 donors (33.1%) were voluntary donors that about 67,027 units were donated to the patients of the West Bank testing all the samples from HBV and HIV. (Palestinian ministry of health annual report, 2017)

Supervisors of blood transfusion in hospitals and donors are the main source of blood for patients that the number of blood donors in the West Bank reached 23,33 including 7,494 voluntary donations (32.1%) and 15840 donated to their relatives (67.9%). All samples were screened to be HB, HIV free In 2016, 48,293 units of blood and blood transfusion were transferred to patients in MoH hospitals in West Bank. (MOH, 2017).

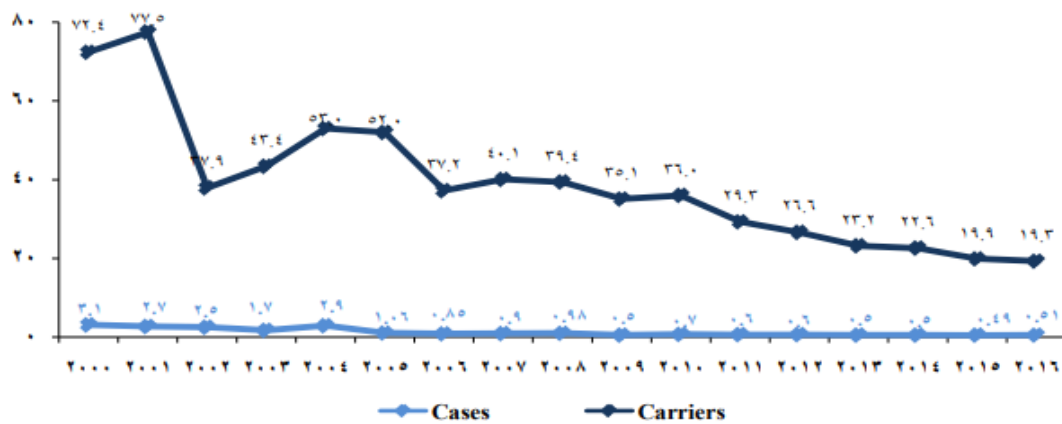


Figure (1): Incidence Rate of cases & carriers of Viral Hepatitis B per 100,000 Pop., Palestine 2000-2016.

The National Blood Bank in Palestine: The number of blood donors in the National Blood Bank West Bank was 9,168 donors, of which 3,264 were voluntary donors and 5,904 donated to relatives or friends. The percentage of voluntary donors was 35.6% and those of relatives were 64.4%. By testing the units, 0.8% was positive for hepatitis B virus, 0.2% positive for viral hepatitis C, and HIV showed initial results of 18 positive samples requiring confirmatory testing. The syphilis examination, which is done for units Blood transfused fresh and the units recorded from platelets were recorded 2 positive cases, and the number of units of blood and its derivatives spent to all government hospitals, non-governmental and

private in West Bank was 18,734 units. (Palestinian ministry of health annual report, 2018)

Aim of the study:

Evaluating the effectiveness of the reporting and communicating system of the positively tested patients for hepatitis B between the private sectors and the Palestinian Ministry of Health.

Objectives:

1. Determination of the effectiveness of the reporting process.
2. Determine if all hepatitis B cases are Detected and reported To the Ministry of Health
3. Evaluating the effectiveness of reporting system between private and government.
4. Identify the causes of the inefficient reporting system
5. Determine the number of the missed cases that have to be reported propose a more efficient /effective reporting system
6. Propose improvements for reporting process in the recommendations of the study

Problem statements:

Private sectors occasionally receive a positive hepatitis b patient from different departments of the hospital and laboratories which they must file an official report for the new cases as a protocol and send it to the ministry of health but rarely the follow-up action is taken., which can affect the population and the society, leaving a hepatitis B positive case not reported can lead to spreading the disease among his family, neighbors and in every medical action the case make.

Chapter Two

Literature review

In Cameroon, which is the highest country in terms of HB rate, a study was conducted aiming at assessing the profile of serological markers of HBV infection and data about HBV infection among health care workers in a health area in Yaoundé revealing that their knowledge of HBV infection is non-optimal. (Tatsilong et al., 2016).

In 2017, a study was conducted at An-Najah National University investigating the compliance to the Infection Control Protocols (ICP) in the governmental hospitals in the West Bank. The sample of the study included 587 doctors and nurses. Results show that Only 150(44.6%) said that there is a copy of ICP in their department and 221(38.0%) said that they had educational courses related to infection control. The nurses were more likely to receive educational courses; 47.4% nurses versus 24.5% doctors, P-value <0.001. Most healthcare professionals (86.4%) received hepatitis B vaccination. Nurses were more likely to have vaccination; (90.7%) nurses versus (79.8%) doctors, P-value <0 .001. However, 42.6% only said that they always wear gloves when they examine the patients. The limitations reported included absence of enough resources (55.0%), absence of enough training programs (49.6%), absence of clear protocols (44.1%), and a large number of patients 44.0%). Clear ICP is absent; knowledge regarding these protocols is not enough. Compliance of healthcare providers with ICP is suboptimal. (RowaAl-Ramahi, 2015)

Another study in Pakistan focused on HBV among various age groups that more than 4890 patients were screened for HBV. Results show that the highest infection was found in the age of 21-30 and then 31-40. However, it declined in the age groups 41-50 and 51-60. (Khan et al., 2011)

In 2014, another study was conducted in Palestine showing that most HB patients were blood transfusion, dental visits, hospitalization, Hejamat, sharing shaving equipment patients. The logistic regression model revealed a history of dental visits to be the most significant risk factor, (P-value <0.001, OR 5.6; 95% CI 2.8-11.1). Development and enforcement of appropriate infection control guidelines for dental care services are important to prevent HB virus transmission as well. (Nazzal & Sobuh, 2014)

In 2019 a study Since 2011, 40 of 92 countries that conducted DHS surveys reported on injection practices. On average, the frequency of injection was 1.64 per person per year. Among those, 96.1% of injections reportedly used new injection devices. (Hayashi, Hutin, Bulterys, Altaf, & Allegranzi, 2019)

Chapter Three

Methodology

Design of the Study

A cross-sectional study has been done to evaluate the effectiveness of the reporting and communicating system of the positively tested patients for hepatitis B between the private sectors and the MOH

Site and setting of the study

The study conducted in the blood banks of private hospitals including 12 private hospitals all over the West Bank and in the central blood bank of MOH

Population:

The study population included all technicians working in the blood banks of the private who included 60 technicians in Nablus, Ramallah, Jenin, Tulkarm, Beit-Jala, and Hebron. Also, a total number of 29 notification forms (Annex 4) have been collected from the overall number of 60 forms from all private hospitals for review regarding their district.

Sample size and sampling method:

The sample size was equal to the population which composed only of 60 technicians that only work in private blood banks. Also, 29 copies of the notification form have been collected randomly from the private hospitals

while the overall number is 60 notification forms, and 1 questionnaire from the Preventive medicine department of Palestinian MOH. Which each report shows the monthly units in each blood bank

Data Collection Tools:

Data has been collected using a structured (Annex1) self-reported questionnaire which covered all the aspects of the study. The data collection tool is composed of three parts starting with demographic data to determine the location of the hospital. The second part is composed of seven questions about the form, the number of cases received, and the way of procedure that each report is archived and processed. The third part for the Palestinian MOH with ten different questions on the reports received and the follow-up methods in cooperation with the private blood banks. The fourth part was to evaluate the notification form for accuracy, completion, cost and time needed to fulfill the form, time to complete each form, and how many doses each form cost the blood bank to fulfill and if reported correctly.

Validity and reliability:

The collection tool has been reviewed and restructured by two Ph.D. holders the first one and Assistant Prof. Medical Molecular Virology and the second Ph.D. is Associate Cancer Biology, all of the comments and modifications have been reviewed by the higher studies committee for the

final approval. In reliability, the Cronbach alpha test was conducted with a score of 0.9 which is reliable.

Field Work:

The questionnaire was distributed according to the status of Palestinian MOH quarantine and emergency status in the country. The self-reporting method was used to fulfill the questionnaire which was handled to the participant either through email to the following cities, Ramallah, Beit-Jala, and Hebron or by hand directly to Nablus, Jenin and Tulkarm.

Data analysis:

SPSS was used to achieve the goals of the study using the chi-square test and T-test.

The number of totally fulfilled forms divided by the total number of monthly reports per year. For example $(1 \div 12 = 0.83 \times 100\% = 8.3\% / \text{per year})$.

The accuracy was calculated roughly due to the small number of forms received and fulfilled from the private blood banks which means the percentage represents the actual number of forms fulfilled correctly and accurately.

The time was calculated by taking the mean, for example, the time of fulfilling the form was between 7 – 25 minutes.

For example $(10+12+10+12+14+16+9+12+10+15 = 120)$ $120/12 = 10$ minutes.

The cost was calculated by taking the mean, for example, the time of fulfilling the form was between 1 – 3 minutes.

For example $(1+2+3+2+1+1+1+2+1+2 = 17)$ $17 / 12 = 1.41$ ILS

Chapter Four

Results

The number of study samples conforming to the inclusion criteria was 60.

Table (1): Distribution number of participant at blood bank according to the city

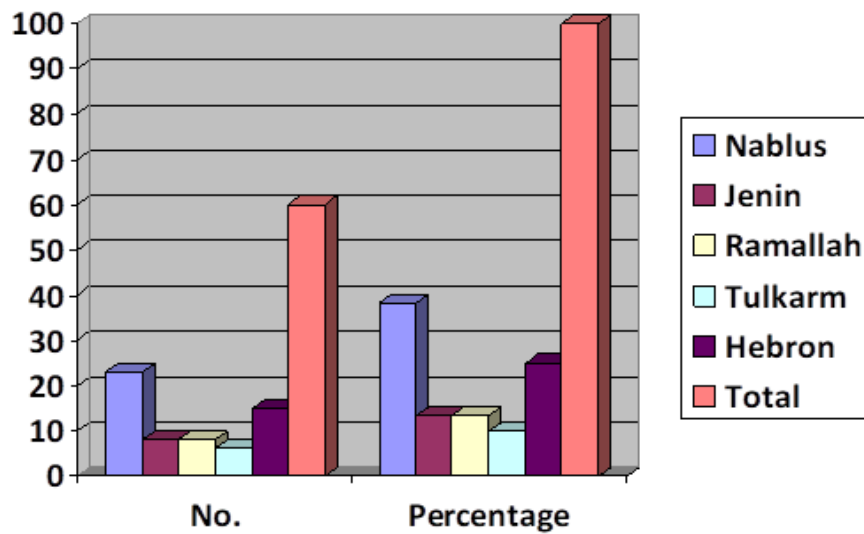


Table (1) shows the distribution number of participants at blood bank according to a private hospital in each city and what percentage they represent in the study.

Table (2): Distribution of percentage of participant's response

No.	Question	Classification	No.	Percentage
1.	Several blood units Donation per month/participant.	1-50	36	60.0
		50-100	24	40.0
		>150	—	—
2.	Are the blood units tested for hepatitis B?	Yes	60	100.0
		No	—	—
3.	Are all of the reported hepatitis B positive cases are documented?	Yes	60	100.0
		No	—	—
	If (Yes) How you document it?	Paper forum	59	98.3
		Taking demographic data	1	1.7
4.	Are the hepatitis B positive cases reported to the Ministry of Health?	Yes	60	100.0
		No	—	—
	If (Yes) How?	By Fax	60	100.0

No.	Question	Classification	No.	Percentage
5.	Is there any official report form provided by the Ministry of Health to report hepatitis B positive results?	Yes	60	100.0
		No	—	—
	If (Yes), a copy of the report should be provided?	test copy	60	100.0
No.	Question	Classification	No.	Percentage
6.	Do you receive a feedback report after reporting cases?	Yes	27	45.0
		No	33	55.0
	If (Yes), specify the type of responses?	Verbal Feedback	27	45.0
7.	The authorized person who reports the HBV positive cases?	Lab supervisor	19	31.7
		Department supervisor	2	3.3
		Preventative medicine department supervisor	39	65.0
Total			60	100.0

Table (2) shows that the number of Blood units donated per month, it shows that 60% of the participants reported that the number of blood units donated per month was between 1-50 units for hepatitis B, it also shows that all blood units with hepatitis B positive cases were documented, using the hospital's forms.

Table (3): Distribution of percentage of donated blood units per participants by private hospital per district

No. of Blood units Donation		Location					Total
		Nablus	Jenin	Ramallah	Tulkarm	Hebron	
1-50	No.	14	8	0	6	8	36
	%	38.9	22.2	.0	16.7	22.2	100.0
50-100	No.	9	0	8	0	7	24
	%	37.5	.0	33.3	.0	29.2	100.0

Table (3) shows the Distribution of blood units Donations per participants by private hospital per district which shows that the higher number of blood unit donation is in Nablus district with 38.9% between 1-50 blood units and 37.5% between 50-100 blood units.

Table (4): The relation between feedback report by the Private sector and positive HBV cases reported to MOH calculated by T-Test

Do you receive a feedback report after reporting cases?		Location					Total	P (Value)
		Nablus	Jenin	Ramallah	Tulkarm	Hebron		
Yes	No.	12	2	2	6	5	27	0.024*
	%	44.4	7.4	7.4	22.2	18.5	100.0	
No	No.	11	6	6	0	10	33	
	%	33.3	18.2	18.2	.0	30.3	100.0	

* The mean difference is significant at the 0.05 level.

Table (4) shows the feedback report by MOH and positive HBV cases reported to MOH with a P-value is (0.024) which is less than 0.05.

Table (5): The authorized person who received reports of HBV positive cases and the location calculated by T-Test

The authorized person who report the HBV positive cases		Location					Total	P (Value)
		Nablus	Jenin	Ramallah	Tulkarm	Hebron		
Lab supervisor	No.	13	2	4	0	0	19	0.003*
	%	68.4	10.5	21.1	.0	.0	100.0	
Department supervisor	No.	2	0	0	0	0	2	
	%	100.0	.0	.0	.0	.0	100.0	
Preventative medicine department supervisor	No.	8	6	4	6	15	39	
	%	20.5	15.4	10.3	15.4	38.5	100.0	

* The mean difference is significant at the 0.05 level.

Table (5) shows the authorized person who received reports of HBV positive cases and the location the P-value represents the authorized person who should receive the reports.

Table (6): Number of reports reviewed per district

No. of reports	Location						Total
	Nablus	Bethlehem	Jenin	Ramallah	Tulkarm	Hebron	
No.	10	2	3	4	3	7	29

Table (7): Distribution of percentage regarding effectiveness Measurable point/district

District	Accuracy	Complete	Time	Cost
Nablus	10%	Not complete	15 min	1 ILS
Jenin	5%	Not complete	20 min	1.4 ILS
Tulkarm	12%	Not complete	10 min	1 ILS
Hebron	8%	Not complete	15 min	1.2 ILS
Ramallah	15%	Not complete	20 min	1.1 ILS
Bait-Jala	10%	Not complete	10 min	1.5 ILS

Table (7) shows the Distribution of percentage regarding effectiveness measurable point \ district, accuracy was calculated roughly due to low numbers of reports has been received which considering the full number for each hospital are 12 report annually as 100% based of the number of received reports.

Results Related to Ministry of Health

Table (8): Sector C: Ministry of Health responses

No.	Question	Classification	No.	%
1.	Is there any official form used by the private sectors to be used for reporting Hepatitis B positive cases?	Yes	1	100.0
		No	—	—
	If Yes, a copy from the report?	Notification form	1	100.0
2.	Do you receive a regular report for hepatitis b positive cases from private hospitals?	Yes	1	100.0
		No	—	—
	If Yes, a copy as an example?	The monthly report from the directorate	1	100.0
	How many reports per month / annual do you receive?	One monthly	1	100.0
3.	Is there any receiving/feedback report provided by the ministry of health?	Yes	1	100.0
		No	—	—
4.	Is there any action taken when receiving reported positive cases of hepatitis b?	Yes	1	100.0
		No	—	—
	If (Yes), How?	Follow up the case	1	100.0

No.	Question	Classification	No.	%
5.	Does the follow-up depend only on the results from the private sectors or the ministry of health do a conformation test first?	Private report	—	—
		Ministry of health confirmatory tests	1	100.0
6.	How many cases have been received/followed up ratio?	NA	1	100.0
7.	The method used for confirmation of HBV positive cases	HbsAg , PCR	1	100.0
8.	Is there any action by the ministry of health when private sectors didn't report HBV positive cases?	Yes	1	100.0
		No	—	—
	If yes, the action is	Warning if no response close the facility by public health low	1	100.0
9.	Is there any other method to know the positive cases otherwise paper reporting system? it has been covered previously not needed	Yes	—	—
		No	1	100.0
10.	Is there any special new form from the ministry of health in the last two years?	Yes, but all of the hospitals use the old form	1	100
11.	Dose all of the reports received and send from the private hospital for the correct department in the ministry of health?	No, all of the laboratories send the reports for the preventive medicine	0	0
12.	Does the private hospital send a report each month / 12 report per year for each hospital	No, none of the hospitals sending the 12 forms just the positive cases	0	0
13.	Is there any statistical or known number for blood unit donations for private hospitals	No statistical for blood units donation numbers for private	0	0
14.	Does the private hospital send a fulfilled forms with full details for each hepatitis B positive case?	No, No fulfilled report has been received	0	0

Table (8) shows that the Notification form is the official form used by the private sectors to be used for reporting Hepatitis B positive cases, The Ministry of health receive a regular report for hepatitis b positive cases from private hospitals an example of it is the Monthly (one monthly)

report from the directorate, there is received / feedback report provided by the ministry of health, Follow up the case is the action taken when receiving a reported positive case of hepatitis b.

Chapter Five

Discussion & Recommendations

Discussion:

HBV prevalence rates had shown that HBV vaccination in infancy induces protection for at least 10 - 15 years. Vaccinees with low or undetectable levels of anti-HBs antibodies are reported to develop a strong anamnestic response up to 10 years after primary immunization. Accordingly, several studies consider boosters to be unnecessary at 10 years after immunization. In 2000, the European Consensus Group and CDC stated the use of booster HBV vaccine in immunocompetent individuals 15 years after primary immunization unless accumulating data from different regions show a significant increase of HBV infection in adults vaccinated in childhood.

The number of participants at blood bank according to a private hospital in each city and what percentage they represent in the study. Which we can notice that Nablus district has the most technicians and that was due to the number of private hospitals with 5 hospitals.

Table (2) shows that the number of Blood units donated per month, it shows that 60% of the participants reported that the number of blood units donated per month was between 1-50 units for hepatitis B, it also shows that all blood units with hepatitis B positive cases were documented, using the hospital's forms. In addition, a cross-sectional study was conducted in

the blood bank department at King Abdullah Hospital, Bisha, Saudi Arabia, between 1 September 2019 and 1 May 2020. King Abdullah Hospital collected blood numbered 252 and 267 units, respectively in 2020. All collected blood was from blood bank-based collections. The results also reported that all (100.0%) of the hepatitis B positive cases reported to the Ministry of Health by Paper form. 45.0% of the respondents receive a feedback report after reporting cases by verbal feedback while 55.0% don't. Moreover, The authorized persons who report the HBV positive cases are 31.7% lab supervisor, 3.3% department supervisor and 65.0% preventative medicine department supervisor impractical communication between the laboratory technicians and the hospital department they work in because there no authorized person that has been officially responsible to receive and document the monthly report of follow-up the process.

Inconstant to Multnomah County Health Department in Portland, Oregon a study was conducted in 2006 shows that available HB, data were 18% of entries in Connecticut, 62% in Minnesota, and 16% in Multnomah County. Multnomah County used two Microsoft Access 2000 databases: one that had been designed for use by the Communicable Disease Program for a variety of communicable diseases, with special screens for hepatitis B. (Fleming, et al, 2006).

Table (4) shows the relation between feedback report by MOH and positive HBV cases reported to MOH with a P-value is (0.024) which is less than 0.05, that means as measuring the feedback between the two

sectors has been achieved significantly but on the other hand in question number six as how do you receive the feedback all of the answers were as verbal only which not documented as a feedback report sheet, However, according to CDC at 2005 since new burns are immune to HB for being vaccinated against HBV that in 2000, about 81000 babies were vaccinated besides the total number of chronic HBV infection is 1.25 million people. (CDC, 2005).

In addition to infections occurring in childhood, CDC, 2006 estimates that 20,000 (95% confidence interval, 15,000 to 32,000) infants are born to HBsAg positive mothers each year, reporting each case of hepatitis b can help early detecting and treatment, especially for young cases, to ensure the health event is still a priority, to ensure that the system continues to fulfill its purpose and to identify areas for improvement. As shown in the results that early reporting and feedback between the private and governmental sectors are very important to improve the overall detecting of the new cases of hepatitis b. (CDC, 2006)

Moreover, In table 5 and table 6 shows The authorized persons who report the HBV positive cases are 31.7% lab supervisor, 3.3% department supervisor, and 65.0% preventative medicine department supervisor. A 2007 study conducted in China found that only 35% of hepatitis B cases that had been reported as acute infections met a rigorous case definition of acute hepatitis B, implying over-reporting of new-onset infections. To increase the accuracy of reported acute hepatitis B infections Enhanced

surveillance was (1) standardizing the diagnostic and reporting procedures for clinicians based on national diagnostic criteria, additional information helpful for the diagnosis of the stage of hepatitis B infection, including the date of initial HBsAg positivity, hepatitis B signs and symptoms as a computerized software to minimize the errors and increasing the accuracy of reporting. (Miao, et al, 2019).

While the number of forms received from each private hospital and was roughly collected due to a low number of forms fulfilled from each district, Which in these results of the current study shows that many missed cases and the missing data from MOH for the private sector at all, noticing that every annual report of MOH which no existence of numbers about the private sector positive cases or the number of technicians can affect the effectiveness of reporting and follow-up of hepatitis b positive cases, In Minnesota, Connecticut and Multnomah all the three health departments had developed relatively complex systems to manage the flow of data from laboratories and to gather additional or confirmatory information on potential cases. Program staff members reported that three software features were important in increasing efficiency and reducing errors: (1) “de-duplicating” cases during data entry to ensure that staff could link new laboratory results to those of the same patients already listed in the database; (2) logic checks to prevent the entry of erroneous data (such as laboratory dates that occurred before the patient's birth date); and (3) generating standard summary reports about new entries to the registries and

tickler reports to remind staff of unfinished tasks inpatient investigations. The entry of paper laboratory results was time-consuming at all three sites. In Connecticut, a staff member was not always available to enter results into the registry, which led to gaps in data, especially in 1997 and 1998. (Fleming, et al, 2006).

Table (7) shows the Distribution of percentage regarding effectiveness measurable point \ district which focused on the accuracy, completed forms, time and cost mean for each form to be fulfilled.

After the studies reviewed, (Wright, C.M., Boudarène, ET al.2018) some of the main drivers of whether an HBV screening and treatment strategy will be cost-effective are discussed below. This is not meant to provide an exhaustive list of drivers of cost-effectiveness but a descriptive analysis of key considerations, which will hopefully be useful in informing discussions. Each parameter depends on the underlying type of model used and its baseline parameters. This should involve both the cost of consumables as well as other costs including human resource costs. The Cost-effectiveness of a screen and treat strategy reported in some studies is the cost of drugs. Screening costs varied between the studies and were only found to be drivers of cost-effectiveness in the Wong and PROLIFICA studies. In the PROLIFICA study, despite an active community-based screening campaign, screening costs were low (US\$ 7.43 per person offered to screen) and the intervention remained cost-effective even if there was a 3-fold increase in screening costs. The Rein study in the USA

reported costs per person screened between US\$ 40 and US\$ 280, with the higher costs with active outreach strategies.

Table (8) Determine if all hepatitis B cases are Detected and reported To the Ministry of Health, all of the participants with a percentage of 100% send the report as a reporting for the positive cases as well as the response of the PMOH in the third part of the questionnaire in the question number two answered that they receive all of the monthly reported cases they have been sent by the private sectors. According to Alberta-Australia, Alberta testing guideline HBsAg is the first serological marker seen in HBV infection (acute or chronic) and can be detected in serum from 1-2 weeks to 11-12 weeks after exposure or indefinitely in chronic infections.

Determine the number of the missed cases that have to be reported propose more efficient /effective table 8 shows that reporting system as we used question number six in the last part of the PMOH, depending on the last objective which shows that also there is no authorized person can follow-up the regular monthly reports received from the private sectors and with no regular documentation for every positive or report as we mentioned previously that the respond of the PMOH has been done by the preventive medicine department of PMOH.

While comparing to the Chinese policy against HBV, it has been evaluated through nationally representative serologic surveys conducted in 1992 and 2006. However, the 2016 survey used a two-stage strategy in which townships were selected from 160 longstanding, nationally

representative, county-level disease surveillance points, and persons 1–29 years of age were invited to participate. Chronic HBV infection in China has been reduced by 90% (from 10.5% to 0.8%) among children <15 years of age and by 97% (from 9.9% to 0.3%) among children <5 years of age. Disparities by region and urban/rural status that existed among young children in 1992 and 2006 were largely eliminated by 2014 (Cui, F., Shen. et al 2017).

After review to a study conducted in Ireland on the Evaluation of the hepatitis B enhanced surveillance system resulted that the system differentiates between acute and chronic cases with 97% of cases assigned appropriate disease status. Data completeness for chosen variables was better for acute cases (71%-95%) compared with chronic (32%-62%). Only 33% of acute cases were notified to the system within four days of laboratory result date while 29% had incorrect dates reported. Approximately 50%-57% of the expected number of hepatitis B cases was reported to the system. The majority of questionnaire respondents found the system acceptable (n=46, 90%) and easy to use (n=35, 69%), but suggested matching paper enhanced surveillance information exactly to electronic hepatitis B surveillance fields, having fewer fields to complete and removing duplicate fields. The hepatitis B surveillance system in Palestine does not fulfill all of its objectives. Recommended to improved timeliness of reporting for acute cases, better data collection for chronic cases,

implementation of existing hepatitis B screening guidance to ensure that notified cases are representative of hepatitis B.

Recommendations:

1. Recommended notification form was added to annex (5) as more practical and accurate was found.
2. Computerized HIS system in each private blood bank can reduce the feedback paper.
3. Follow-up system between private and governmental system.
4. Written Follow-up protocol handed for every private blood bank.
5. Strengthening the professional training for viral hepatitis management.
6. Strengthening the current notification system, developing a centralized monitoring System or patient registry, establishing a domestic laboratory network, and encouraging research activities for viral hepatitis.
7. Strengthening the collaboration with non-governmental organizations via knowledge sharing.
8. Adopt standardized testing algorithms for viral hepatitis surveillance, blood safety, and diagnosis.

Limitations:

1. Declaration of emergency status in Palestinian territory for 4 months and still on.
2. Dilation of MOH questionnaire fulfillment from the Preventive medicine department for 32 days due to protocol.
3. Many missed reported cases and lack of enough forums fulfilled which no data for private sectors are found in the ministry of health.
4. Missing answers from the MOH on how many cases were reported/Followed up.
5. Only 29 notification form was collected from an overall of 60 notification forms due to refusing of the private hospitals to give all the notification forms.

Conclusion:

After reviewing different articles on hepatitis b cases and how do the other countries can report each positive case when can conclude that the Palestinian ministry of health reporting system needs improvements on many different levels which they can facilitate and make the follow-up and detecting process faster than the currently used system, with very insufficient resources and budgets getting rid of papers and forums can reduce cost and using the internet and direct data transformation will fasten the process of reporting, reviewing survey questions one by one can lead us

to a different aspect of the problem from who should be reported by the laboratory technicians to who should receive ever monthly reported and the process of being approved the hospital itself before sending to handling and receiving the reports in the MOH with approval code.

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Annexes

Annex (1)

An-Najah National University

Faculty of Graduate Studies

Master Program of Public Health



Evaluation of Health notification system for hepatitis B between Palestinian Ministry of Health and private sector

تقييم نظام الرصد الصحي لمرض الكبد الوبائي فيورس ب بين وزارة الصحة الفلسطينية والقطاع الخاص

The information provided by you in this questionnaire will be used for research purposes. It will not be used in a manner that would allow the identification of your responses.

سيتم استخدام المعلومات التي قدمتها في هذا الاستبيان لأغراض البحث فقط .

لن يتم استخدامها بطريقة تسمح بتحديد إجاباتك وهويتك الفردية .

Questionnaire:**A. Demographic Data:**

1. Location (City) :

B. Private Institute Part:

1. Number of Donations per month?

A. 1-50

B. 50- 100

C. > 100

2. Are the blood units tested for hepatitis B?

A. Yes

B. No

3. Are all of the reported hepatitis b positive cases are Documented?

A. Yes

B. No

If Yes, How, and Where?

4. Does the positive cases of hepatitis B reported to the Ministry of health?

A. Yes

B. No

If Yes, How?

1.Fax

2.Email

3.P.O Box

5. Is there any official report form provided by the Ministry of health to report Hepatitis B Positive results?

A. Yes

B. No

If Yes, a copy of the report should be provided?

6. Do you receive a feedback report after reporting cases?

A. Yes

B. No

C. If yes, specify the type of response is it, electronic response, email, pox mail, oral copy one form of a feedback report as an example?

.....

7. The authorized person who reports the HBV positive cases?

1. Lab supervisor

2. Department supervisor

3. Preventive medicine department supervisor

4. Allied medical department supervisor

5. Lab technician

C. Ministry of Health (Government) Part:

1. Is there any official form used by the private sectors to be used for reporting Hepatitis B positive cases?

A. Yes

B. No

If Yes, a copy from the report?

2. Do you receive a regular report for hepatitis b positive cases from private hospitals?

A. Yes

B. No

If Yes, a copy as an example?

3. How many reports per month / annual do you receive?

.....

4. Is there any receiving/feedback report provided by the ministry of health?

A. Yes

B. No

5. Is there any action taken when receiving a reported positive case of hepatitis b
:

A. Yes

B. No

If Yes, How?

6. Does the follow-up depend only on the results from the private sectors or the
ministry of health do a conformation test first?

A. Private reporting

B. Ministry of health confirmatory tests

7. How many cases have been received/followed up ratio? What you mean here

.....

8. The method used for confirmation of HBV positive cases;

.....

.....

9. Is there any action by the ministry of health when private sectors didn't report
HBV positive cases? yes No

If yes, the action is

.....

.....

10. Is there any other method to know the positive cases otherwise paper reporting system?

it has been covering previously not needed

.....
.....

11. Is there any special new form from the ministry of health in the last two years?

.....
.....
.....

12. Dose all of the reports received and send from the private hospital for the correct department in the ministry of health?

.....
.....

13. Does the private hospital send a report each month / 12 report per year for each hospital

.....
.....
.....

14. Is there any statistical or known number for blood unit donations for private hospitals?

.....
.....
.....

15. Does the private hospital send a fulfilled forms with full details for each hepatitis B positive case?

.....
.....

Annex (2)

IRB letter

An-Najah
National University
Faculty of medicine Sciences &
Health
Institutional Review Board



جامعة النجاح
الوطنية
كلية الطب وعلوم الصحة
لجنة أخلاقيات البحث
العلمي

REF: MAS

IRB Approval Letter

Study Title:

**“Evaluation of Health notification system for hepatitis B between Palestinian
Ministry of Health and private sector”**

Submitted by:
Ali A.Radwan

Supervisor:
Dr.Mariam Amer Al-Tell

Date Reviewed:
16th December 2018

Date Approved:
18th December 2018

Your Study titled “Evaluation of Health notification system for hepatitis B between Palestinian
Ministry of Health and private sector” with archived number (16) December ,2018 was reviewed
by An-Najah National University IRB committee and was approved 18th December 2018

Hasan Fitian, MD
IRB Committee Chairman
An-Najah National University



Annex (3)

MOH Notification Form



السلطة الوطنية الفلسطينية
 وزارة الصحة
 إدارة المختبرات وبك الدم

السلطة الوطنية الفلسطينية
 صحة
 المختبرات والإحصاء

BLOOD BANK MONTHLY REPORT

Month: 6
 Year: 2019/2020
 Hospital: [Redacted]

DONORS

Voluntary	<u>3</u>
Family Replacement	<u>6</u>
TOTAL	<u>9</u>

COLLECTED UNITS

Single Bag	<u>9</u>
Double Bag	<u>/</u>
Triple Bag	<u>/</u>
TOTAL	<u>/</u>

TESTS

TESTS	Donors		Patient	
	Total	positive	Total	positive
Blood Grouping	<u>9</u>	<u>4</u>		
Hbs Ag		<u>1</u>		
Anti HIV1+2				
Anti HCV				
RPR (Syphilis)				
Coombs -Direct				
Coombs -Indirect				
TOTAL				

TRANSFUSED UNITS

Hospital	Whole blood	Packed RBCs	FFP	Platelets concentrate
TOTAL				

(7)

Annex (4)

Facilitate the task

An-Najah
National University
Faculty of Graduate Studies
Department of Graduate Studies for Medical
& Health Sciences
Master of Public Health



جامعة
 النجاح الوطنية
 كلية الدراسات العليا
 قسم الدراسات العليا للعلوم الصحية والطبية
 برنامج ماجستير الصحة العامة

18.05.2020

الموضوع: تسهيل مهمة للطالب علي رضوان (رقم تسجيل 11558953)

حضرة مدير مستشفى الاتحاد / نابلس،

السيد علي رضوان طالب دراسات عليا في برنامج ماجستير الصحة العامة و هو يجري مشروعه للتخرج بعنوان:

Evaluation of Health notification system for hepatitis B between Palestinian Ministry of Health and private sector

ارجو من حضرتكم الموافقة و تسهيل جمع المعلومات الخاصة بمشروعه البحثي من مؤسساتكم الرافدة (مرفق نسخة الاستبيان) و ذلك تحت اشراف د. مريم الطل - علما ان اطروحته تم الموافقة عليها من قبل كلية الدراسات العليا و لجنة الاخلاقيات الطبية في جامعة النجاح الوطنية.

و تقبلوا فائق الاحترام،

منسق ماجستير الصحة العامة
 د. عبد السلام الخياط



- نسخة للمعشرف
 - نسخة الملف



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18.05.2020

الموضوع: تسهيل مهمة للطلاب علي رضوان (رقم تسجيل 11558953)

حضرة مدير المستشفى الاستشاري / رام الله ،

السيد علي رضوان طالب دراسات عليا في برنامج ماجستير الصحة العامة و هو يجري مشروعه التخرج بعنوان:

Evaluation of Health notification system for hepatitis B between Palestinian Ministry of Health and private sector

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ذلك تحت اشراف د. مريم الطل . علما ان اطروحته تم الموافقة عليها من قبل كلية الدراسات العليا و لجنة الاخلاقيات الطبية في
جامعة النجاح الوطنية.

و تقبلوا فائق الاحترام،

منسق ماجستير الصحة العامة
د. عبد السلام الخياط



- نسخة للمشرف
- نسخة الملف



18.05.2020

الموضوع: تسهيل مهمة للطالب علي رضوان (رقم تسجيل 11558953)

حضرة مدير مستشفى الأهلي / الخليل ،

السيد علي رضوان طالب دراسات عليا في برنامج ماجستير الصحة العامة و هو يجري مشروعه التخرج بعنوان:

Evaluation of Health notification system for hepatitis B between Palestinian Ministry of Health and private sector

ارجو من حضرتكم الموافقة و تسهيل جمع المعلومات الخاصة بمشروعه البحثي من مؤسساتكم الرائدة (مرفق نسخة الاستبيان) و ذلك تحت اشراف د. مريم الطلح . علما ان اطروحته تم الموافقة عليها من قبل كلية الدراسات العليا و لجنة الاخلاقيات الطبية في جامعة النجاح الوطنية.

و تقبلوا فائق الاحترام،

مثنى ماجستير الصحة العامة
د. عبد السلام الخياط

- نسخة للمشرف
- نسخة الملف



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جامعة
النجاح الوطنية
كلية الدراسات العليا
قسم الدراسات العليا لعلوم الصحة والطبية
برنامج ماجستير الصحة العامة

18.05.2020

الموضوع: تمهيد مهمة للطلاب علي رضوان (رقم تسجيل 11658953)

حضرة مدير مستشفى الرازي / جالين،

السيد علي رضوان طالب دراسات عليا في برنامج ماجستير الصحة العامة و هو يجري مشروعه التخرج بعنوان:

Evaluation of Health notification system for hepatitis B between Palestinian Ministry of Health and private sector

ارجو من حضرتكم الموافقة و تمهيد جمع المعلومات الخاصة بمشروعه البحثي من مؤسساتكم الرائدة (مرفق نسخة الاستبيان) و ذلك تحت اشراف د. مريم اللال . علما ان اطروحته تم الموافقة عليها من قبل كلية الدراسات العليا و لجنة الاخلاقيات الطبية في جامعة النجاح الوطنية.

و تقبلوا فائق الاحترام،

منسق ماجستير الصحة العامة
د. عبد السلام الخياط

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Master of Public Health



جامعة
النجاح الوطنية
كلية الدراسات العليا
قسم الدراسات العليا للعلوم الصحية والطبية
برنامج ماجستير الصحة العامة

18.05.2020

الموضوع: تسهيل مهمة للطالب علي رضوان (رقم تسجيل 11558953)

حضرة مدير مستشفى الرعاية العربية التخصصي / رام الله ،

المبد علي رضوان طالب دراسات عليا في برنامج ماجستير الصحة العامة و هو يجري مشروعه التخرج بعنوان:

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ارجو من حضرتكم الموافقة و تسهيل جمع المعلومات الخاصة بمشروعه البحثي من مؤسساتكم الرائدة (مرفق نسخة الاستبيان) و تلك تحت اشراف د. مريم اللال ، علما ان اطروحته تم الموافقة عليها من قبل كلية الدراسات العليا و لجنة الاخلاقيات الطبية في جامعة النجاح الوطنية.

و تقبلوا لائق الاحترام،

معلق ماجستير الصحة العامة
د. عبد السلام الخياط

رئيس قسم الدراسات العليا
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د. عبد السلام الخياط



- نسخة للمُشرف
- نسخة الملف

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حضرة مدير المستشفى الاتجالي العربي / نابلس،

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حضرة مدير مستشفى الزكاة / طولكرم ،

السيد علي رضوان طالب دراسات عليا في برنامج ماجستير الصحة العامة و هو يجري مشروعه لتخرج بعنوان:

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حضرة مدير مستشفى الشفاء / جنين،

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- نسخة للمشرف
- نسخة الملف





18.05.2020

الموضوع: تسهيل مهمة للطلاب على رضوان (رقم تسجيل 11558953)

حضرة مدير مستشفى نابلس التخصصي / نابلس،

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د. عبد السلام الخياط

- نسخة للمشرف
- نسخة الملف



Annex (5)

Suggested Notification Form

SAMPLE PROFORMAS

SURVEILLANCE OF ACUTE HEPATITIS B

PATIENT DETAILS			
Surname:			M / F
First Name:		Date of Birth :	
Address:			
		Postcode:	Tel No: Mobile No:
*Pregnant: ☐ Yes ☐ No ☐ DK		*EDD:	
OCCUPATION			
Occupation (specify):		Place of Work/Education/*Other (*i.e. prison, home)	
Please give details if patient works in health-care setting (inc hospitals, primary care, care homes) looking after patients, or education-settings (work or student):			
Name of Premises:		Address of Premises:	
ETHNIC GROUP and COUNTRY of ACQUISITION			
Black-African	Black-Other (specify)	South Asian	White
Black-Caribbean	Chinese	Other Asian	Other (specify)
Was infection acquired abroad? ☐ Yes* ☐ No *If yes, specify country:			
GP AND HOSPITAL ADMISSION DETAILS			
GP Name:		Tel No :	
Practice Address :			
Admitted to Hospital: ☐ Yes* ☐ No		*Name of Admitting Hospital:	
*Ward:		*Consultant:	
*Admission Date:		*Discharge Date:	

SAMPLE PROFORMAS

SURVEILLANCE OF ACUTE HEPATITIS B

PATIENT DETAILS			
Surname:			M / F
First Name:		Date of Birth :	
Address:			
Postcode:		Tel No:	Mobile No:
*Pregnant: ☐ Yes ☐ No ☐ DK		*EDD:	
OCCUPATION			
Occupation (specify):		Place of Work/Education/*Other (*i.e. prison, home)	
Please give details if patient works in health-care setting (inc hospitals, primary care, care homes) looking after patients, or education-settings (work or student):			
Name of Premises:		Address of Premises:	
ETHNIC GROUP and COUNTRY of ACQUISITION			
Black-African	Black-Other (specify)	South Asian	White
Black-Caribbean	Chinese	Other Asian	Other (specify)
Was infection acquired abroad? ☐ Yes* ☐ No			
*If yes, specify country:			
GP AND HOSPITAL ADMISSION DETAILS			
GP Name:		Tel No :	
Practice Address :			
Admitted to Hospital: ☐ Yes* ☐ No		*Name of Admitting Hospital:	
*Ward:		*Consultant:	
*Admission Date:		*Discharge Date:	

CLINICAL FEATURES					
☐ Abnormal LFTs ☐ Clinical Jaundice ☐ Hepatic Failure ☐ Asymptomatic					
Onset Date:			Did patient die: ☐ Yes* ☐ No		
*Cause of death:			☐ Acute ☐ Chronic		
LABORATORY CONFIRMATION / SPECIMEN DETAILS					
	Pos	Neg	Equiv	Not Detected	Date Positive
Hepatitis B surface antigen (HBsAg)					
IgM antibody to hepatitis B core antigen (anti-HBc IgM)					
Total antibody to hepatitis B core antigen (anti-HBc)					
Hepatitis B e antigen (HBeAg)					
Antibody to hepatitis B e antigen (anti-HBe)					
Hepatitis B DNA					Date positive: Value:
1 st Specimen Date:			Lab Ref No:		
Laboratory:			Other Laboratory:		
VACCINATION					
Has the Patient Received:	Yes	No	Don't Know		
Hepatitis B immunoglobulin 6 months prior to onset					
One or more doses of hepatitis B vaccine					
Human <i>normal</i> immunoglobulin in 3 months prior to onset					

OUTBREAK				
Is this case part of an outbreak: ☐ Yes* ☐ No		*Community	*Family	*Other
*If 'yes', please give details:				
OTHER RELEVANT INFORMATION/COMMENTS				
PERSON COMPLETING FORM				
Name:				
Title:			Date:	

FOLLOW UP OF CASES and CONTACTS OF ACUTE HEPATITIS B

CASE			
Leaflet on hepatitis B given: ☐ Yes ☐ No			
Advice on prevention of onward transmission given: ☐ Yes ☐ No			
Additional Information/Comment:			
CONTACTS			
Name, address	Vaccinated previously Y/N/DN	Vaccination arranged Y/N Standard schedule Accelerated schedule	HBIG required Y/N
Name, address	Vaccinated previously Y/N/DN	Vaccination arranged Y/N Standard schedule Accelerated schedule	HBIG required Y/N
Name, address	Vaccinated previously Y/N/DN	Vaccination arranged Y/N Standard schedule Accelerated schedule	HBIG required Y/N
Name, address	Vaccinated previously Y/N/DN	Vaccination arranged Y/N Standard schedule Accelerated schedule	HBIG required Y/N
PERSON COMPLETING FORM			
Name:			
Title:		Date:	

جامعة النجاح الوطنية

كلية الدراسات العليا

تقييم نظام الرصد الصحي لمرض الكبد الوبائي فيورس "ب" بين وزارة الصحة الفلسطينية والقطاع الخاص

اعداد

علي رضوان

إشراف

د. مريم عامر الطل

قدمت هذه الأطروحة استكمالاً لمتطلبات الحصول على درجة الماجستير في الصحة العامة بكلية الدراسات العليا في جامعة النجاح الوطنية في نابلس، فلسطين.

2021

ب

تقييم نظام الرصد الصحي لمرض الكبد الوبائي
فيورس "ب" بين وزارة الصحة الفلسطينية والقطاع الخاص

اعداد

علي رضوان

إشراف

د. مريم عامر الطل

الملخص

يعد التهاب الكبد (ب) أحد الأمراض الفيروسية التي تسبب آلاما حادة في الكبد، فهو المسبب الرئيسي لسرطان الكبد، فيمكن نقل الفيروس عن طريق الدم أو عن طريق التواصل الجنسي، فحاملات المرض يمكن أن تفعل عند الولادة ولذلك يتم تطعيم الأطفال بلقاح التهاب الكبد (ب) لحمايتهم منه ، فثلاث جرعات منه كافية لإعطائهم حماية طويلة من الفيروس ، وللتأكد من حالة المريض يتم عمل فحوصات دم للتأكد من أن المبيض حامل للمرض أو محصن ضد المرض أو مزمن. إن الحصول على تقارير جديدة مهم جدا لحصر الأعداد، فقد تم تقديم اللقاح لأول مرة بين عامي 1992 و 1993 ، فتم اعطاء أول جرعة عن الولادة حيث كانت معدل تغطية الضفة الغربية عاليا آخر 10 سنوات وكان عام 2006 (90%) وكانت (104%) عام 2010، أما بالنسبة للجرعة الثالثة فكان مدى تغطيتها عام 2006 (91%) و (101%) عامي 2010 و2011.

يتم تشخيص المرض بالفحوصات المخبرية والتي تفرق بين الإصابة الحادة وحامل المرض المزمن حاملا أعراض مرض الكبد، عدد حاملات المرض بمكنك فحصه ومعرفة الوضع الوبائي، يتم ارسال تقارير الحالات الحرجة والمزمنة بشكل منفصل بينما تكون في تقرير واحد في قطاع غزة ولكن ابتداء من 2013 بدأت وزارة الصحة في غزة بإرسال التقارير منفصلة كما في الضفة الغربية، حيث تضمنت التقارير 26 حالة أعمار المصابين فيها (23) عاما وهناك (7) حالات تتراوح أعمارهم م بين (15-25) ولا يوجد أي حالة أقل من 15 عاما مما يؤثر إلى أن تأثير برنامج التطعيم جيد خلال عشرين عاما، فمع استمرار التطعيم ، سيختفي المرض بإذن الله.