

ASSESSMENT OF KNOWLEDGE AMONG NURSING STUDENTS REGARDING HEPATITIS B VIRUS INFECTION

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Abstract

Background: Hepatitis B virus infection is a serious transmissible disease in the world. All health care professionals particularly nurses are vulnerable to this serious infection. Knowledge regarding hepatitis B virus infection is essential for nurses in order to prevent its transmission.

Aim: The aim of the study was to assess the level of knowledge among nursing students regarding hepatitis B virus infection.

Methodology: This is descriptive study conducted on nursing students of superior university department of nursing Lahore. A random sampling technique were used. The questionnaire with two portion was distributed among participants; portion A contain sociodemographic characteristics of the study participants, while portion B has knowledge questions on hepatitis B virus infection.

Results: The analysis was done using SPSS version 21. As inference from the sociodemographic characteristics; total study subject was 150, majority of them were female (86), while 64 participants were male. Most of them (85) were between the age of 18 to 20 years. Their literacy level respectively was; (60) had qualification of BSN 1st year, similarly, 60 students were from BSN 2nd year and only 39 students had from BSN 1st year. As from study statistics participants had particularly poor knowledge regarding the transmission route of hepatitis B virus infection.

Conclusion: The present study concluded that there is a lack of knowledge among nursing students regarding hepatitis B virus infection. Particularly, in the domain of hepatitis B virus infection transmission route participants has less knowledge. However, general knowledge on hepatitis B virus, impact on other body function, and its investigational test was high. Poor knowledge may be associated with lower literacy level of some of the participants.

INTRODUCTION

1.1 Background:

Hepatitis B virus (HBV) infection is a major worldwide health problem affecting large number of people every year (Tan, Bhadoria et al. 2021).

Hepatitis B virus infection primarily affect liver and can affect both acute and chronic liver disease. HBV is asymptomatic in majority of the people and the infection may lead to serious

problem such as liver cirrhosis of the hepatocellular carcinoma (Madihi, Syed et al. 2020). Health care workers and nursing students in clinical years, who come in contact with the patient and their potentially infectious infection material such as blood and other body fluids, are at highest risk of requiring infection and should be prevented. Nursing students form the important part of health care system and they must have a proper knowledge about hepatitis B infection, modes of spread, clinical features, complication, and protective measures. The proper knowledge help them to take necessary key to prevent the disease and also to spread awareness about hepatitis B infection among people, client, and other health care professionals (Cama, Beadman et al. 2023). Hepatitis B virus infection has been linked with extra hepatic complications. For example, various form of kidney injury have had been described in relation to HBV, including membranous nephropathy, proliferative glomerulonephritis and poly arteritis noose. (O'Connell, Blair et al. 2022)

Previous longitudinal study from Taiwan, where HBV infection is endemic, and China showed that positive hepatitis B surface antigen (HB sAg) serology was associated with increased risk of CKD and ESRD (Fabrizi, Cerutti et al. 2021). WHO estimates that 296 million people were living with chronic hepatitis B infection in 2019, with 1.5 million new infection each year. In 2019, hepatitis B resulted in an estimated 8,20,000 deaths, mostly from cirrhosis and hepatocellular carcinoma. (Cui, Blach et al. 2023). The burden of hepatitis B infection is highest in the WHO western pacific region and WHO African region and the WHO eastern Mediterranean region, 18 million in the WHO South-East Asia region 14 million in the WHO European region and 5 million in the WHO region of the America (Leumi, Bigna et al. 2020). In Pakistan, there are estimated 7-9 million carriers of hepatitis B virus (HBV) with a carrier rate of 3-5% (Shahzad, Islam et al. 2023).

Health care workers and nursing student in clinical semester, who come in contact with the client and their potentially infectious materials

such as blood and other body fluids, are at highest risk of acquiring the infection and should be prevented (Smoot 2021). Nursing students form the important part of the health-care system and they must have a proper awareness about hepatitis B infection, way of transmission, clinical features, complication, and preventive measures (Anand, Jain et al. 2020). The proper awareness help them to take necessary precaution to prevent the disease and also to spread knowledge about hepatitis B infection among public and other members of health care system (Roien, Mousavi et al. 2021). Vaccination and use of the personal protective instrument are the major steps for the prevention of hepatitis B infection (Tesfa, Hawulte et al. 2021). Recommended hepatitis B vaccine, which is licensed for use, is advised for all health care workers and nursing students. Three doses of vaccine at 0, 1, and 6-12 months are recommended for basic prevention. (Zhao, Zhou et al. 2020)

This study assessed the knowledge and practice of students towards HBV infection prevention among nursing students. The result of this study will be assist the stakeholders to be aware of the knowledge and practice level of students to prevent the cases of HBV infection.

1.2: Problem statement:

Hepatitis B infection is worldwide health problem, because of its infectious nature. The prevalence of hepatitis B infection is increasing which is an alarming sign for health authorities to take action for its control. It is estimated that hepatitis B affect approximately 296 million people, including over 6 million children under the age of 5 years.. The transmission of hepatitis B is seen to be high in health care professionals because of their contact with affected patients and malpractice. However, the transmission of Hepatitis infection is preventable by using aseptic technique, vaccination, caring and isolating the affected patient with protocol.

1.3: Significance:

The significance of this study will be for us and for the nursing students, which will gain

knowledge regarding hepatitis B infection. We will assess the knowledge of student regarding the HBV infection which will ultimately lead to increase awareness among nursing student.

1.4: Research question:

What is the knowledge level of nursing students regarding hepatitis B virus infection?

1.5: Research objectives:

To assess the knowledge regarding hepatitis B virus infection among nursing students.

1.6: operational definition:

Knowledge:

The knowledge will be assessed through on adopted modified questionnaire.

The questionnaire is consisting of 29 items in nominal scale. The assessment of knowledge regarding hepatitis B infection (HBV) of nursing students had two level of yes & no.

LITRETURE REVIEW

Hepatitis B is a condition that causes inflammation in the liver, resulting in long term damage to the liver, which include liver cirrhosis and liver cancer. That is correct. Hepatitis B is a viral infection that affect the liver and can lead to serious health complication .healthcare workers, especially nursing personnel, are at a higher risk of acquiring the disease due to their regular contact with patients .it is important for healthcare workers to follow proper infection control protocols, such as wearing personal protective and receiving the hepatitis B vaccine, to minimize their risk of infection. Regular screening and testing are also essential for early detection and treatment if necessary.(Yan, Chang et al. 2020)

Hepatitis B virus (HBV) infection is a significant global health concern, with various modes of transmission from one person to another. The occupational risk of HBV among trainees in the health professions at our college has not been examined. Therefore, the objective of this study was to evaluate the knowledge and practices related to the prevention of HBV infection among nursing and health sciences students. Additionally, potential factor that influence their

knowledge and practices were also identified.(Allene and Delelegn 2020)

Enhancing expertise in hepatitis B virus prevention and management among nursing students and health care professionals is a key component of the national strategy for controlling viral hepatitis. The persistence of hepatitis B infection poses a public health concern, marked by concern statistics of morbidity and mortality. Having a thorough understanding, positive approach, and proper implementation of measure for preventing hepatitis B infection are crucial components of hepatitis B infection control.(Rybicka and Bielawski 2020)

Indeed there is limited evidence regarding the knowledge and practice of hepatitis B infection prevention among nursing students who are at high risk of exposure. This is a concerning issue as nursing students play a critical role in patient care and may come into contact with patients who have hepatitis B . To address this problem, it is essential to conduct further research to assess the current level of knowledge and practice among nursing students regarding hepatitis B infection prevention. This can be done through surveys, interviews or observational studies(Balegha, Yidana et al. 2021).

Once the gaps in knowledge and practice are identified, targeted educational interventions can be developed and implemented. These intervention should focus on raising awareness about the transmission routes of hepatitis B and emphasizing the importance of vaccination, adherence to infection control measures, and proper handling and disposal off sharps. Additionally, nursing schools should integrate comprehensive hepatitis B infection prevention training into their curriculum. This training should cover topics such as standard precautions, use of personnel protective equipment, hand hygiene, and safe injection practices. Moreover, it would be beneficial to offer hepatitis B vaccination to all nursing students and provide regular screenings for hepatitis B infection to identify any potential cases. (Nguyen, Pham et al. 2021)

Furthermore, health care facilities where nursing students undergo clinical placements should have robust infection control policies and practices in place. The policies should include the provision of personal protective equipment, proper disposal systems for contaminated materials, and regular monitoring of infection control practice. Overall, addressing the limited knowledge and practice of hepatitis B infection prevention among nursing students requires a multifaceted approach involving research, education and collaboration between nursing schools and health care facilities. By taking these steps, we can better protect nursing students and improve patient safety.(Abalkhail and Alslamah 2022)

Yes, hepatitis B is indeed a significant global health concern due to its contagious nature and impact on morbidity and mortality, especially in developing nations. Vaccination and public health measures play crucial roles in prevention and control.(Tu, Block et al. 2020)

Your summary provides an accurate overview. Hepatitis B impact on the liver, potential for acute and chronic diseases, and its association with cirrhosis and liver cancer make it a significant health threat. The virus's high contagiousness though more infectious than HIV, shares similar transmission modes, it indeed stands as a major global public health concern and contributes to mortality, ranking as the tenth leading cause of death. Vigilance in prevention and vaccination is crucial in addressing this serious health issue.

A cross-sectional investigation was conducted involving 300 health care professional nursing students selected through a simple random sampling method. Information on HBV was evaluated using a validated self-administered questionnaire, and the data were analysed using SPSS version 2.0. Bivariate and multivariate logistic regression were employed to identify factors associated with knowledge and practice.

METHODOLOGY

3.1. Study design:

A descriptive cross sectional research study will be used.

3.2. Settings:

The study settings will be on superior university department of nursing Lahore.

3.3. Sampling technique:

Simple random sampling technique will be used.

3.4. Sample size:

The sample size will be calculated through Solvin's formula.

$$n = \frac{N}{1 + N(e)^2}$$

Where;

n=Sample size

N= population size

e= margin of error

3.5. Eligibility criteria:

3.5.1: Inclusion criteria:

Our study include nursing students.

3.5.2: Exclusion criteria:

Our study does not include graduated nurses, physicians and other health care provider.

3.6. Ethical consideration:

Ethical consideration will be followed which is set by committee of nursing department, superior university. Participants will be ensure for data privacy and they are not forced to participate in this study. Participants will be given in enough information regarding study in their participation in the study. There will be no harm. Their confidentiality will be maintained.

3.7. Data collection tool:

Data will be gathered by using an adopted/translated version of tools to assess the knowledge of nursing students regarding hepatitis B infection.

3.8. Data collection procedure:

Data will be gathered from nursing student participants of superior university.

3.9. Population of study:

The population of the study is nursing student.

3.10. Duration of the study:

The study will be take approximately in 9 months.

RESULTS

Sociodemographic Characteristics of Study Participants

Table No: 1

Age

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 18 to 20	85	56.7	56.7	56.7
20 to 22	54	36.0	36.0	92.7
22 to 24	11	7.3	7.3	100.0
Total	150	100.0	100.0	

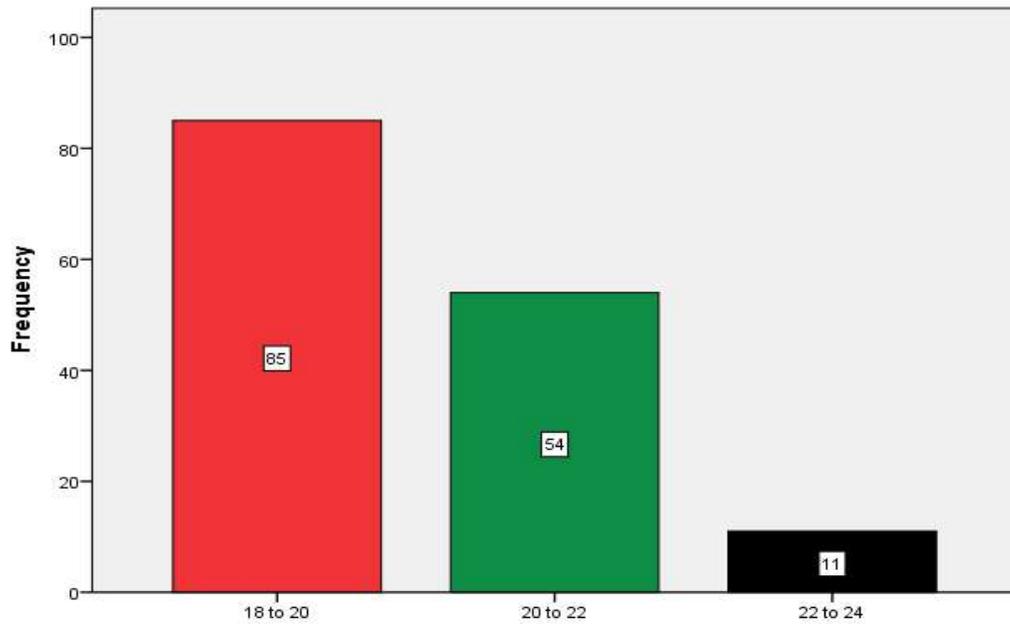


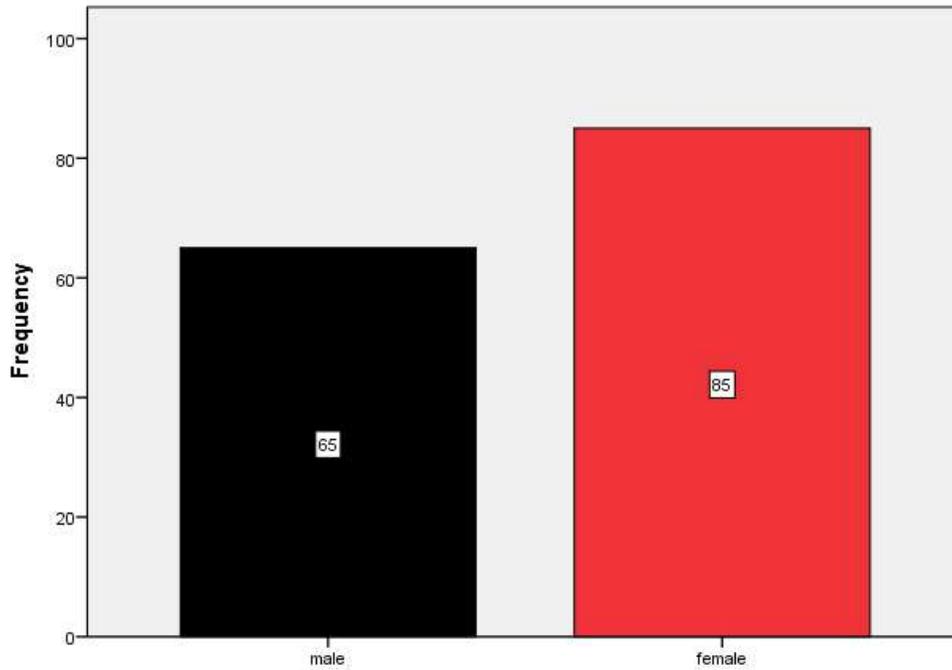
Fig: 1

Table No: 2

Gender

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Male	64	42.7	42.7	42.7
Female	83	55.3	55.3	98.0
3.00	2	1.3	1.3	99.3

4.00	1	.7	.7	100.0
Total	150	100.0	100.0	



Institute for Excellence in Education & Research **Fig: 2**

Table No: 3
Educational Status

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	BSN 1st year	60	40.0	40.0
	BSN 2nd year	60	40.0	80.0
	BSN 3rd year	30	20.0	100.0
	Total	150	100.0	100.0

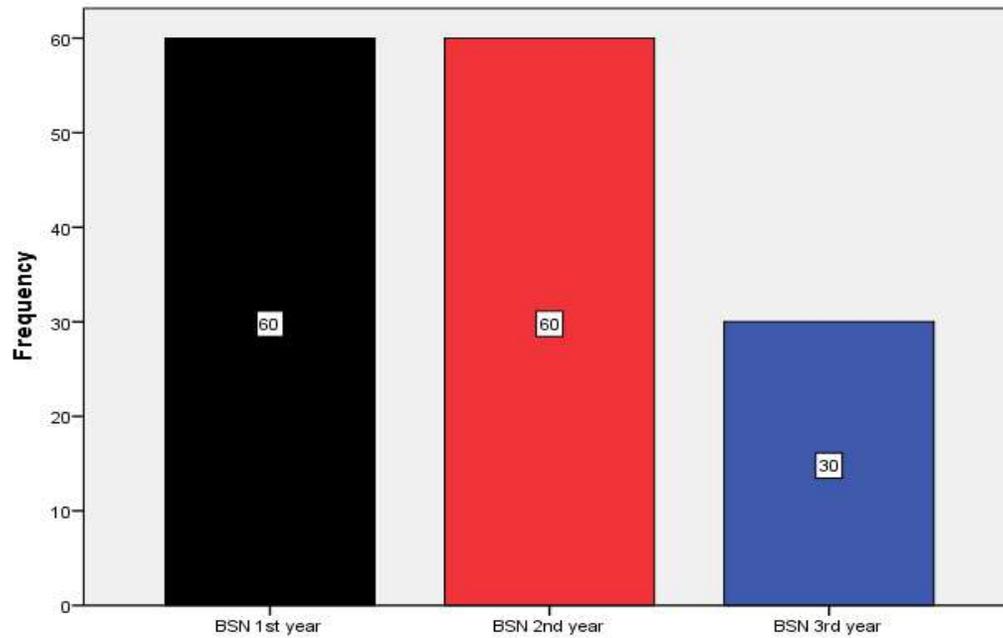


Fig: 2

Table No: 4
Have you heard about hepatitis B infection?

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid true	137	91.3	91.3	91.3
Valid false	13	8.7	8.7	100.0
Total	150	100.0	100.0	

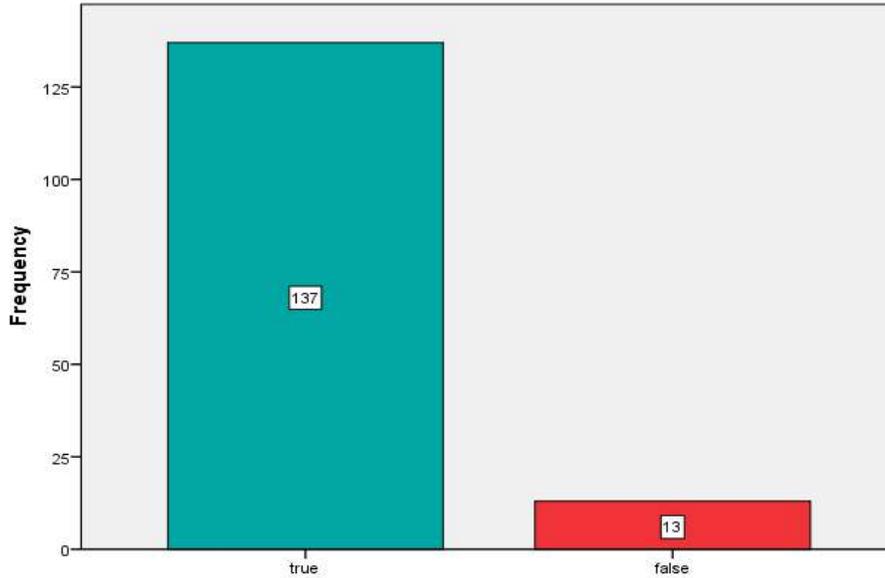


Fig: 4

As shown in the above table & Fig #4, the subject respond to question (04) majority of the subject respond correctly (true) is 137(90%) while minor number of the participants responds to incorrectly (No) is 13 (10%) out of 150 participants.



Table No: 5

Is hepatitis B an infectious disease?

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid false	61	40.7	40.7	40.7
Valid true	89	59.3	59.3	100.0
Total	150	100.0	100.0	

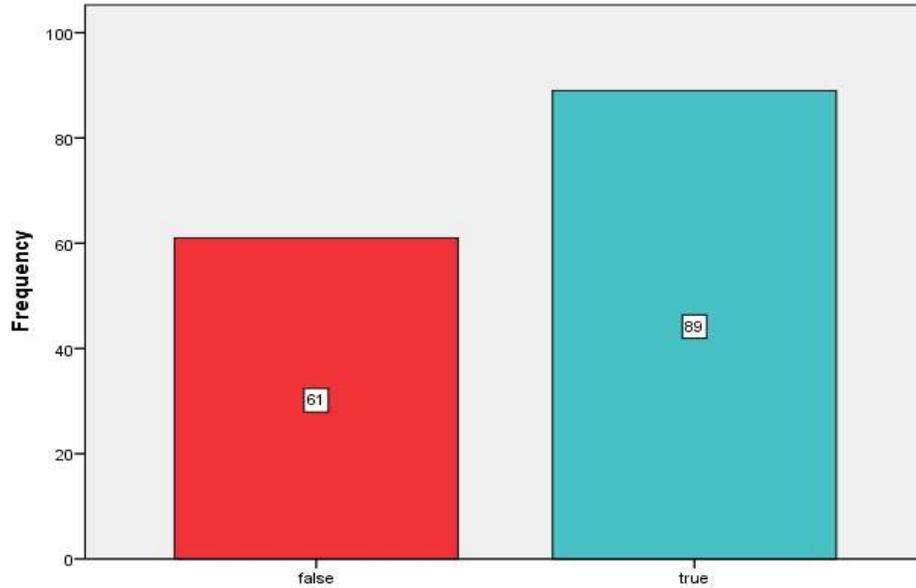


Fig: 5

As shown in the above table & Fig #5, the subject respond to question (05) majority of the subject respond correctly (true) is 89(60%) while minor number of the participants responds to incorrectly (No) is 61 (40%) out of 150 participants.

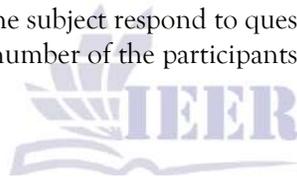


Table No: 6

Do you think doctors and medical students are at risk of acquiring hepatitis B infection from the patients?

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid false	89	59.3	59.3	59.3
Valid true	61	40.7	40.7	100.0
Total	150	100.0	100.0	

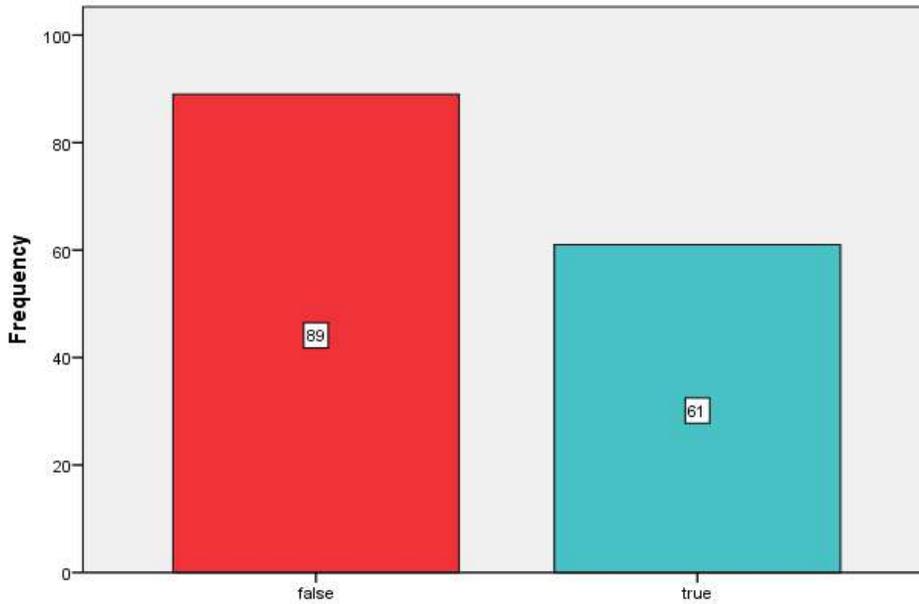


Fig: 6

As shown in the above table & Fig #6, the subject respond to question (06) majority of the subject respond correctly (true) is 61(40%) while minor number of the participants responds to incorrectly (No) is 89 (60%) out of 150 participants.

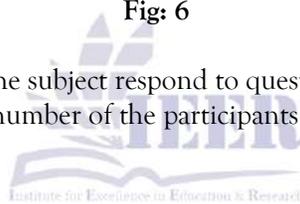


Table No: 7

HBV is 200 times transmissible than HIV?

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid false	90	60.0	60.0	60.0
true	60	40.0	40.0	100.0
Total	150	100.0	100.0	

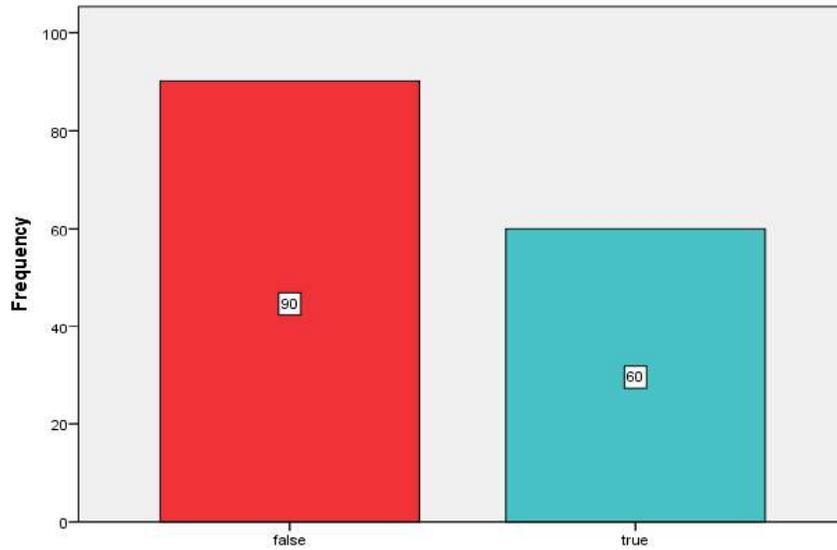


Fig: 7

As shown in the above table & Fig #7, the subject respond to question (07) majority of the subject respond correctly (true) is 60(40%) while minor number of the participants responds to incorrectly (No) is 90 (60%) out of 150 participants.



Table No: 8

Hepatitis B is resistant to alcohol and some detergents?

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid false	82	54.7	54.7	54.7
Valid true	68	45.3	45.3	100.0
Total	150	100.0	100.0	

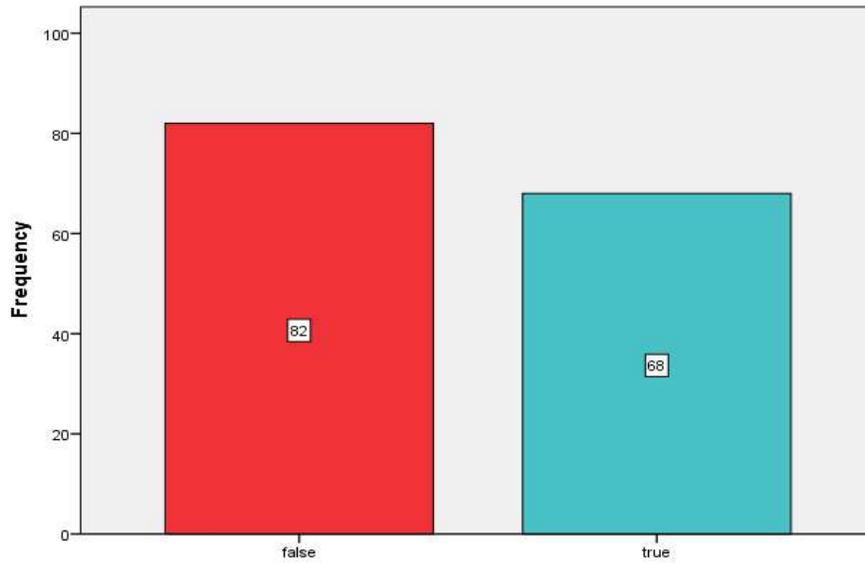


Fig: 8

As shown in the above table & Fig #8, the subject respond to question (08) majority of the subject respond correctly (true) is 68(41%) while minor number of the participants responds to incorrectly (No) is 82 (59%) out of 150 participants.



Table No: 9

HBV could be an infectious outside the body (e.g., in the environment)

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid false	91	60.7	60.7	60.7
Valid true	59	39.3	39.3	100.0
Total	150	100.0	100.0	

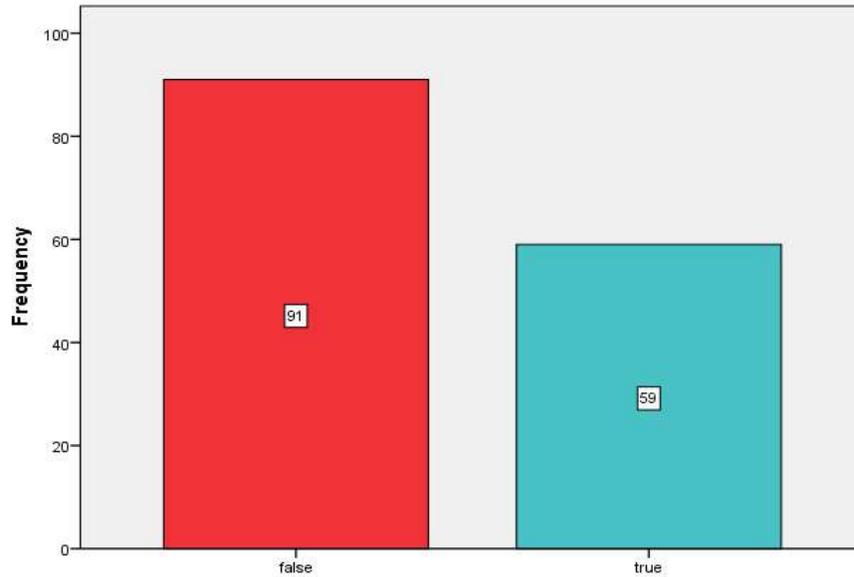


Fig: 9

As shown in the above table & Fig #9, the subject respond to question (09) majority of the subject respond correctly (true) is 59(40%) while minor number of the participants responds to incorrectly (No) is 91 (60%) out of 150 participants.



Table No: 10

Hepatitis B can transmit by fecal-oral?

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid false	109	72.7	72.7	72.7
Valid true	41	27.3	27.3	100.0
Total	150	100.0	100.0	

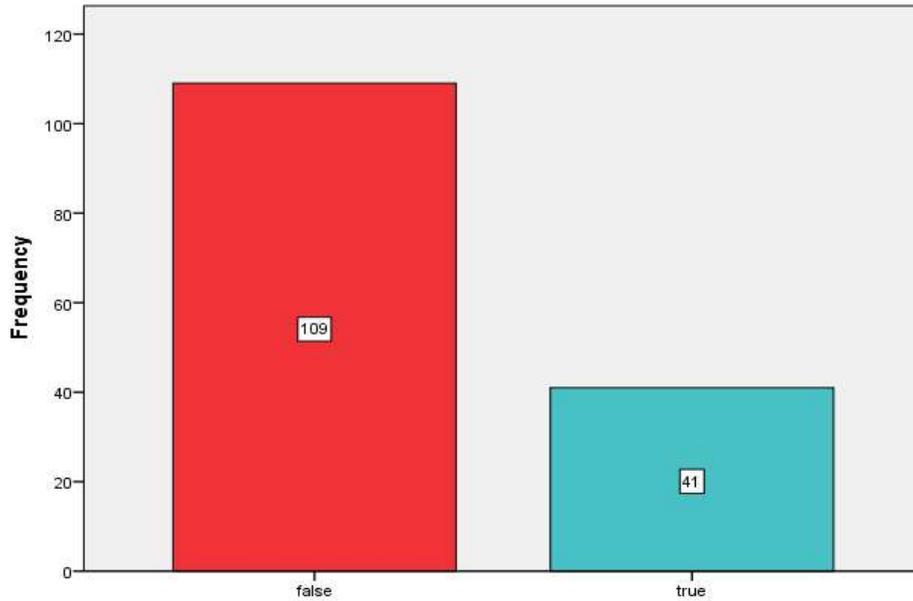


Fig: 10

As shown in the above table & Fig #10, the subject respond to question (10) majority of the subject respond correctly (true) is 41(27%) while minor number of the participants responds to incorrectly (No) is 109 (73%) out of 150 participants.

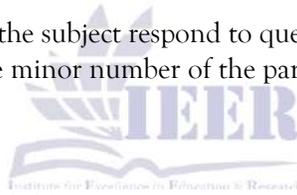


Table No: 11

Hepatitis B can transmit by mother to child?

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid false	102	68.0	68.0	68.0
Valid true	48	32.0	32.0	100.0
Total	150	100.0	100.0	

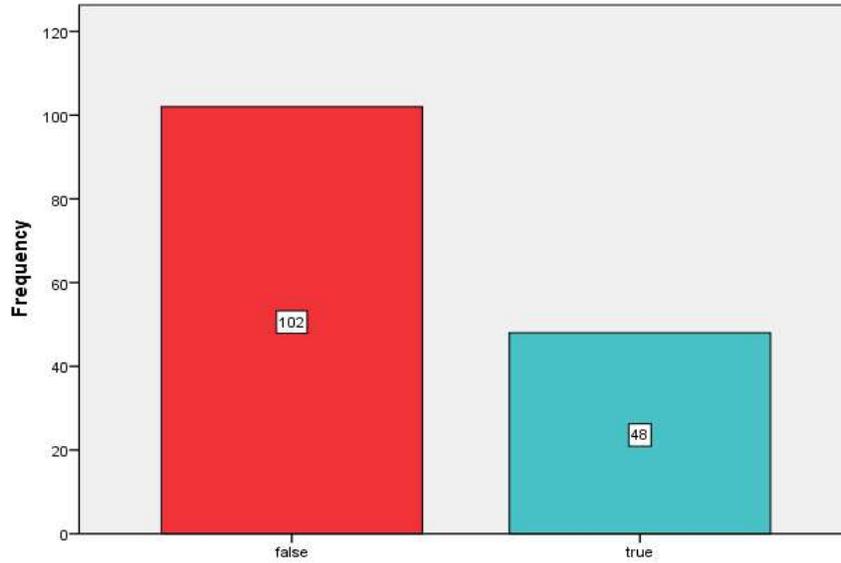


Fig: 11

As shown in the above table & Fig #11, the subject respond to question (11) majority of the subject respond correctly (true) is 48(31%) while minor number of the participants responds to incorrectly (No) is 102 (69%) out of 150 participants.

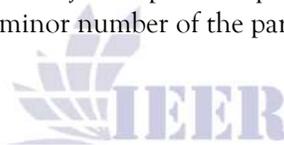


Table No: 12

Hepatitis B can transmit by contaminated water?

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid false	102	68.0	68.0	68.0
Valid true	48	32.0	32.0	100.0
Total	150	100.0	100.0	

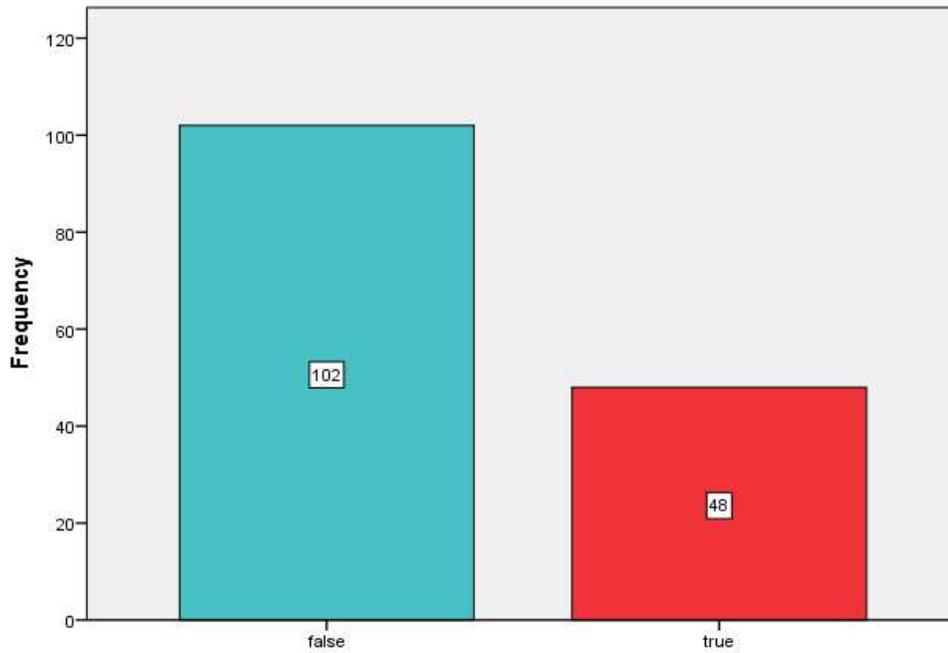


Fig: 12

As shown in the above table & Fig #12, the subject respond to question (12) majority of the subject respond correctly (true) is 48(31%) while minor number of the participants responds to incorrectly (No) is 102 (69%) out of 150 participants.

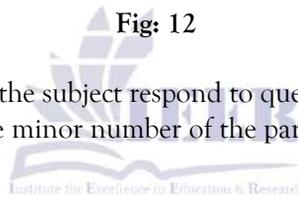


Table No: 13
Hepatitis B can transmit by sexual contact?

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid false	99	66.0	66.0	66.0
Valid true	51	34.0	34.0	100.0
Total	150	100.0	100.0	

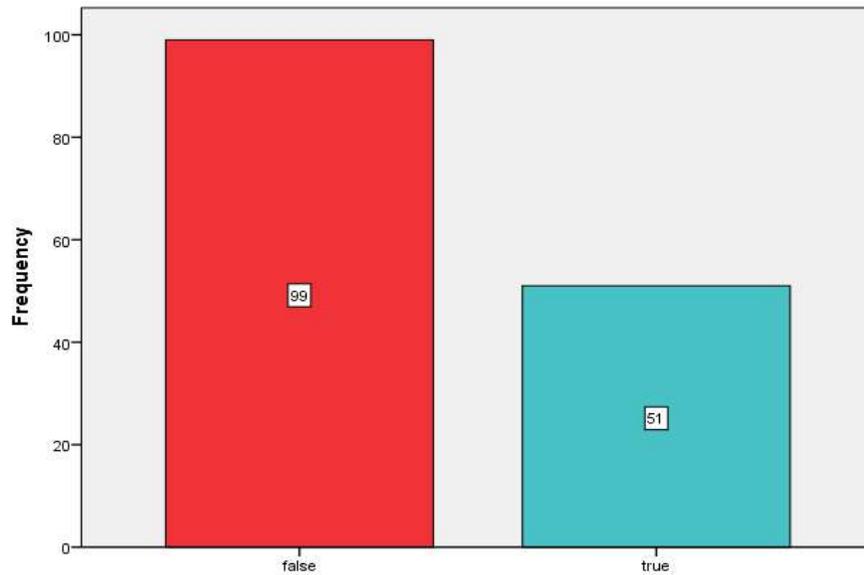


Fig: 13

As shown in the above table & Fig 13, the subject respond to question (13) majority of the subject respond correctly (true) is 51(33%) while minor number of the participants responds to incorrectly (No) is 99 (67%) out of 150 participants.

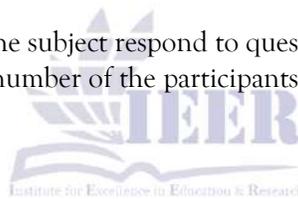


Table No: 14

Carriers can transmit hepatitis B?

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid false	92	61.3	61.3	61.3
Valid true	58	38.7	38.7	100.0
Total	150	100.0	100.0	

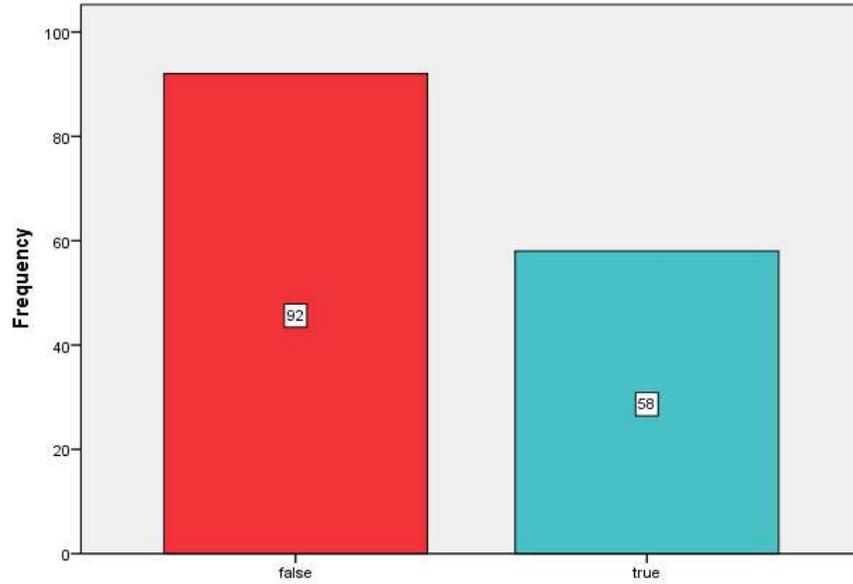


Fig: 14

As shown in the above table & Fig #14, the subject respond to question (14) majority of the subject respond correctly (true) is 58(40%) while minor number of the participants responds to incorrectly (No) is 92 (60%) out of 150 participants.



Table No: 15

Hepatitis B can transmit by handshaking?

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid false	71	47.3	47.3	47.3
Valid true	79	52.7	52.7	100.0
Total	150	100.0	100.0	

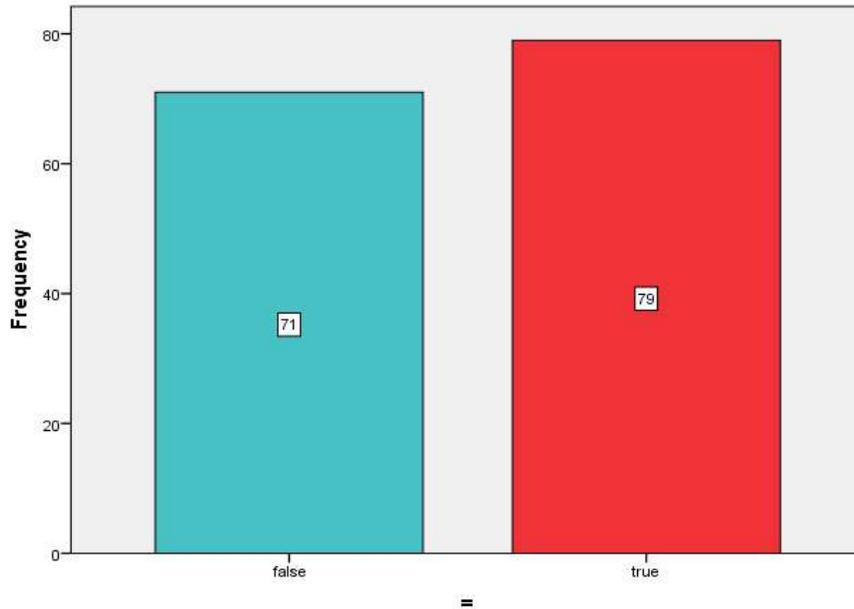


Fig: 15

As shown in the above table & Fig #15, the subject respond to question (15) majority of the subject respond correctly (true) is 79(60%) while minor number of the participants responds to incorrectly (No) is 71 (40%) out of 150 participants.



Table No: 16

Hepatitis B can transmit by contact with open wounds?

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid false	84	56.0	56.0	56.0
Valid true	66	44.0	44.0	100.0
Total	150	100.0	100.0	

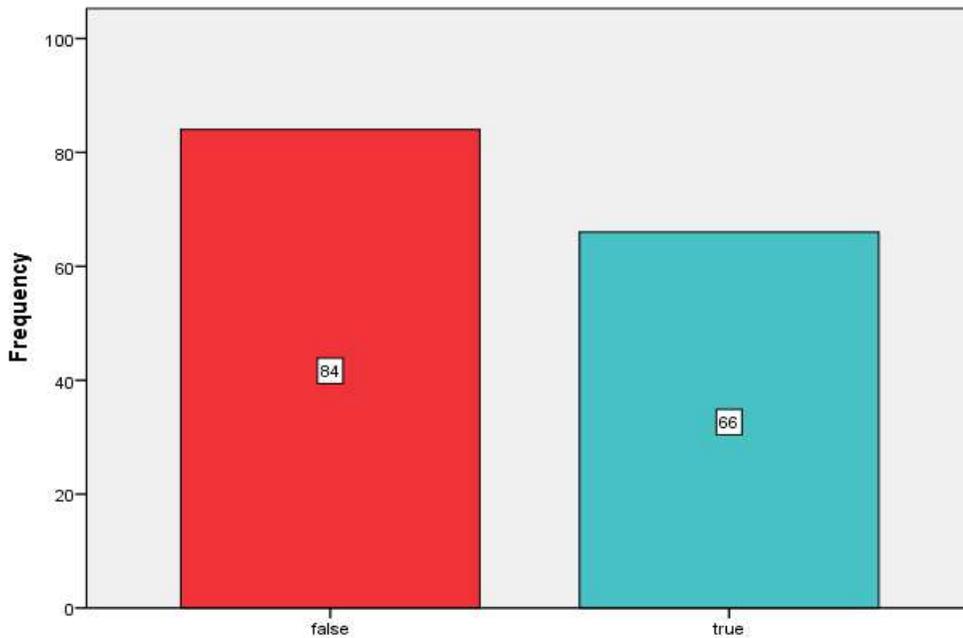


Fig: 16

As shown in the above table & Fig #16, the subject respond to question (16) majority of the subject respond correctly (true) is 66(42%) while minor number of the participants responds to incorrectly (No) is 84(58%) out of 150 participants.

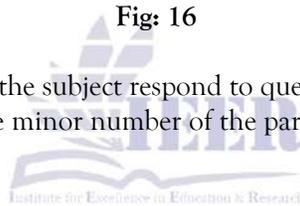


Table No: 17

Hepatitis B can transmit by blood and body fluid?

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid false	98	65.3	65.3	65.3
Valid true	52	34.7	34.7	100.0
Total	150	100.0	100.0	

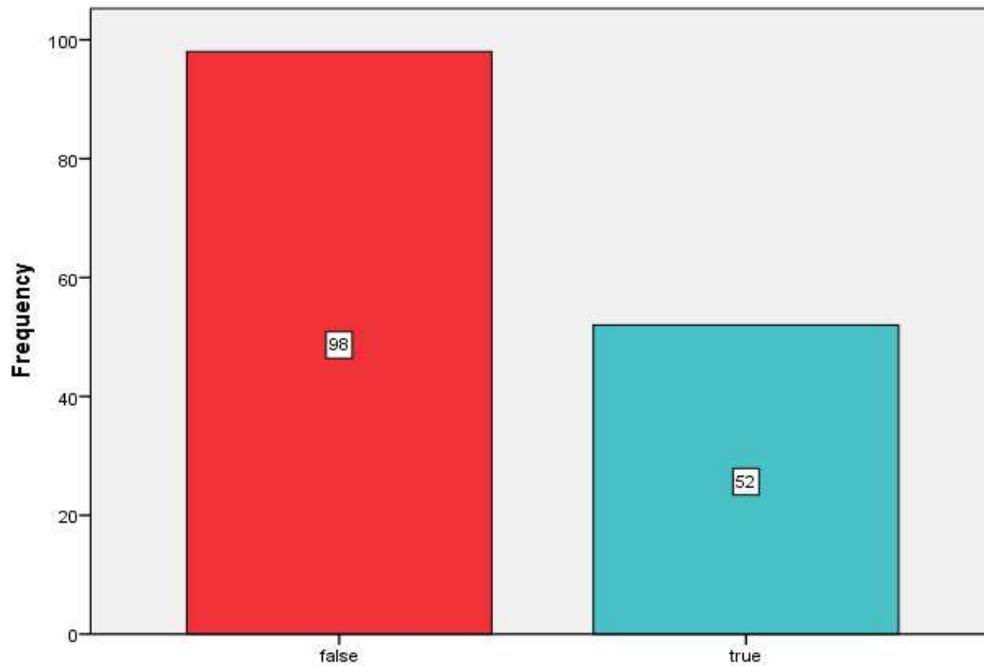


Fig: 17

As shown in the above table & Fig #17, the subject respond to question (17) majority of the subject respond correctly (true) is 52(35%) while minor number of the participants responds to incorrectly (No) is 98 (65%) out of 150 participants.

Table No: 18

Hepatitis B can transmit by unsterilized syringe, the needle?

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid false	92	61.3	61.3	61.3
Valid true	58	38.7	38.7	100.0
Total	150	100.0	100.0	

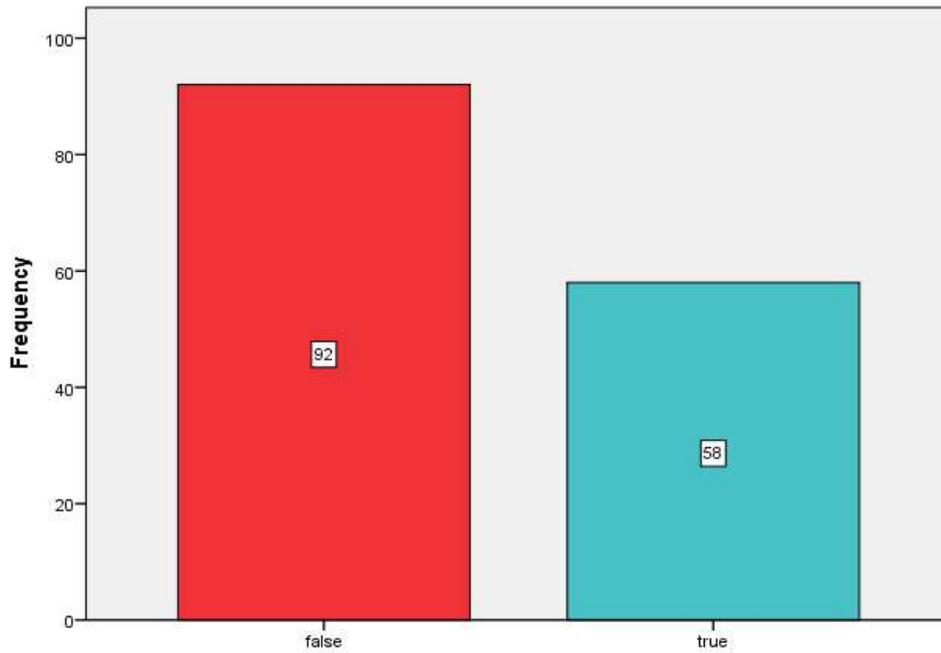


Fig: 18

As shown in the above table & Fig #18, the subject respond to question (18) majority of the subject respond correctly (true) is 58(40%) while minor number of the participants responds to incorrectly (No) is 92 (60%) out of 150 participants.

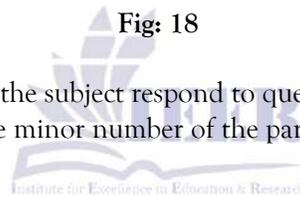


Table No: 19
HBV causes liver cancer?

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid false	96	64.0	64.0	64.0
Valid true	54	36.0	36.0	100.0
Total	150	100.0	100.0	

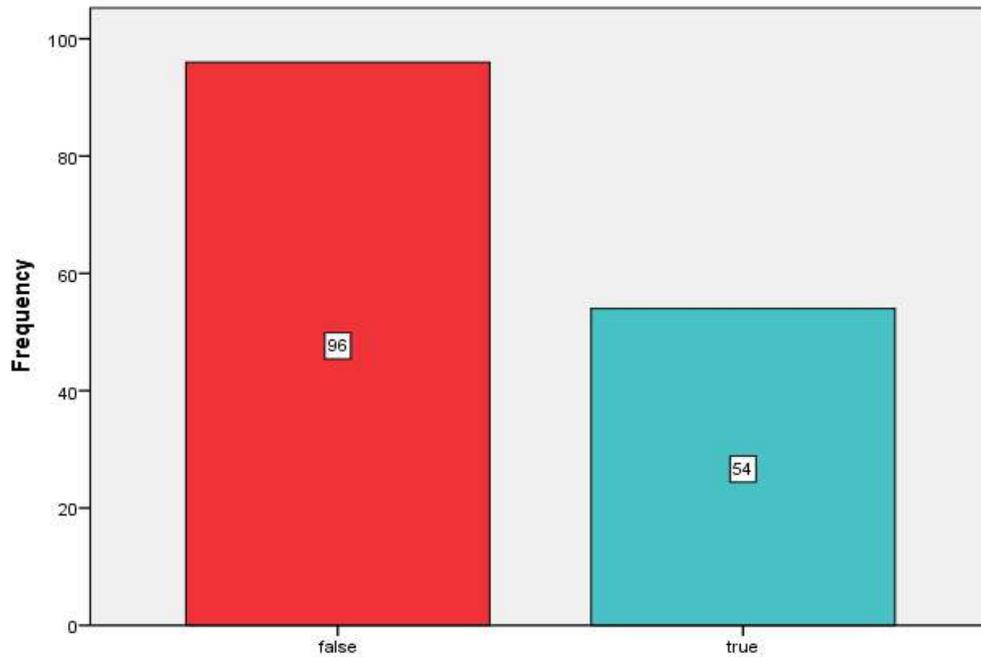


Fig: 19

As shown in the above table & Fig #19, the subject respond to question (19) majority of the subject respond correctly (true) is 54(35%) while minor number of the participants responds to incorrectly (No) is 96 (65%) out of 150 participants.

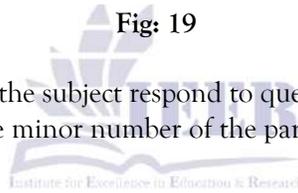


Table No: 20

HBV carriers can transmit the infection?

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid false	96	64.0	64.0	64.0
Valid true	54	36.0	36.0	100.0
Total	150	100.0	100.0	

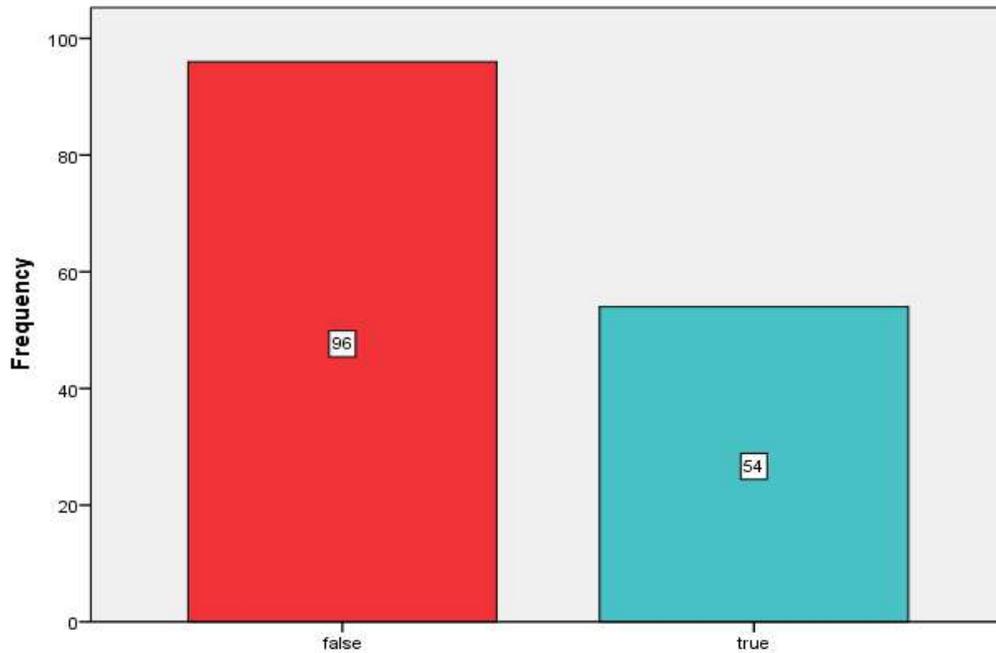


Fig: 20

As shown in the above table & Fig #20, the subject respond to question (20) majority of the subject respond correctly (true) is 54(35%) while minor number of the participants responds to incorrectly (No) is 96 (65%) out of 150 participants.

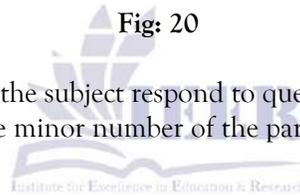


Table No: 21
HBV spread by casual contact such as hand shacking

	Frequency	Percent	Valid Percent	Cumulative Percent
false	94	62.7	62.7	62.7
Valid true	56	37.3	37.3	100.0
Total	150	100.0	100.0	

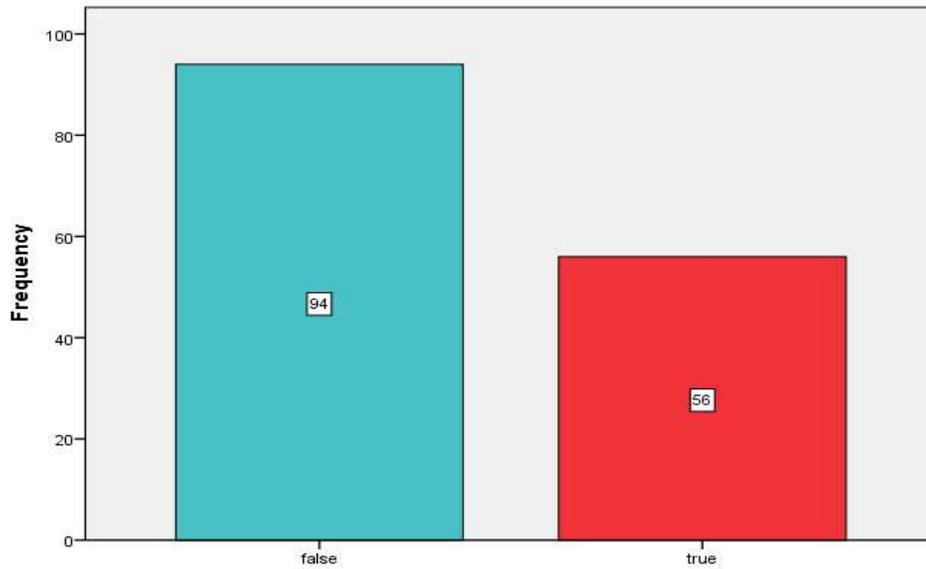


Fig: 21

As shown in the above table & Fig #21, the subject respond to question (21) majority of the subject respond correctly (true) is 56(38%) while minor number of the participants responds to incorrectly (No) is 94 (62%) out of 150 participants.

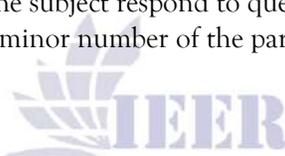


Table No: 22

HBV spread by contact with open wounds/cut?

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid false	85	56.7	56.7	56.7
Valid true	65	43.3	43.3	100.0
Total	150	100.0	100.0	

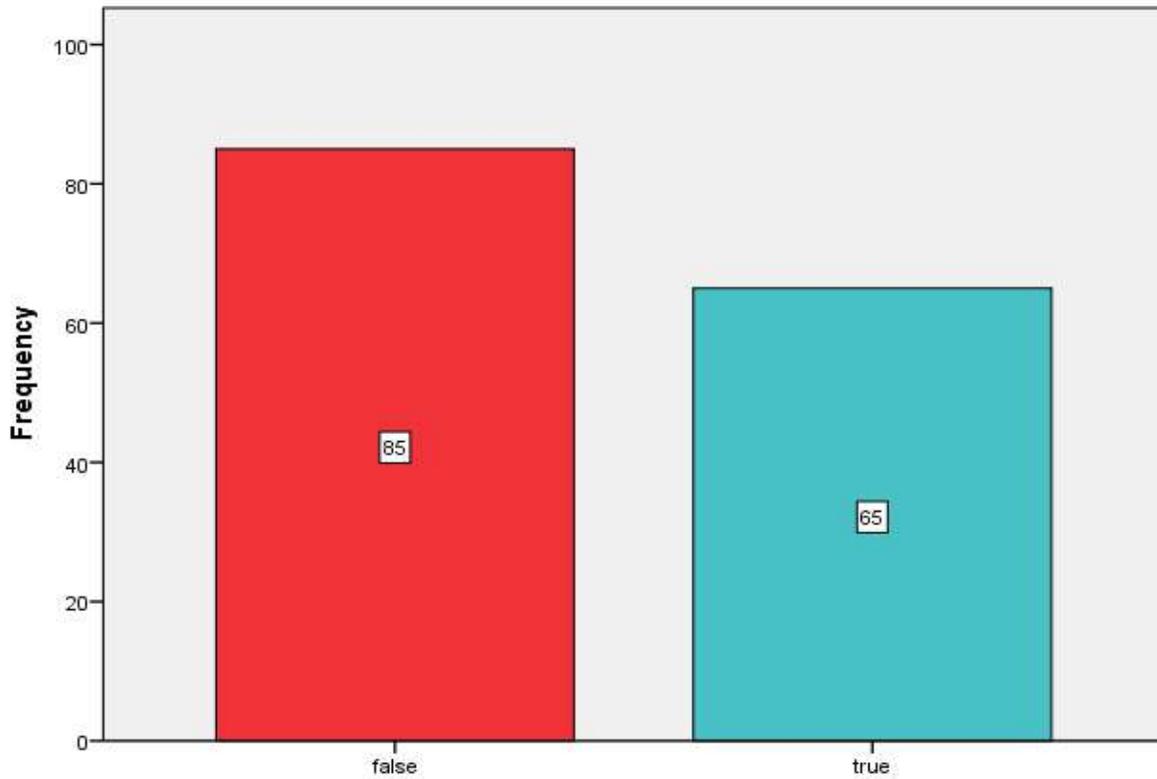


Fig: 22
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As shown in the above table & Fig #22, the subject respond to question (22) majority of the subject respond correctly (true) is 65(44%) while minor number of the participants responds to incorrectly (No) is 85 (56%) out of 150 participants.

Table No: 23

HBV can be transmitted by contaminated blood and body fluids

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	false	109	72.7	72.7
	true	41	27.3	100.0
Total	150	100.0	100.0	

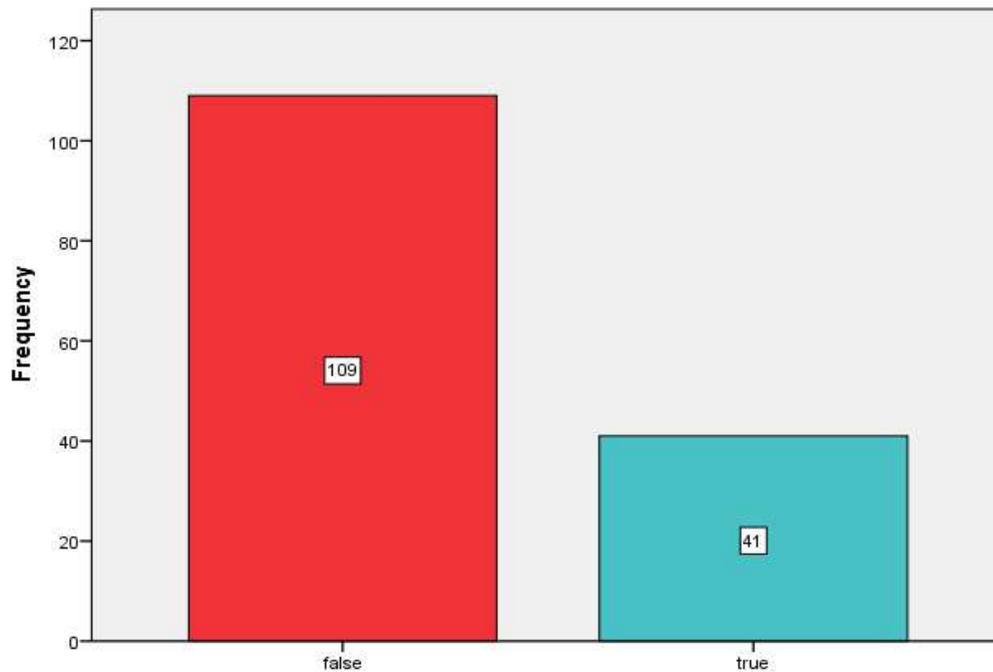
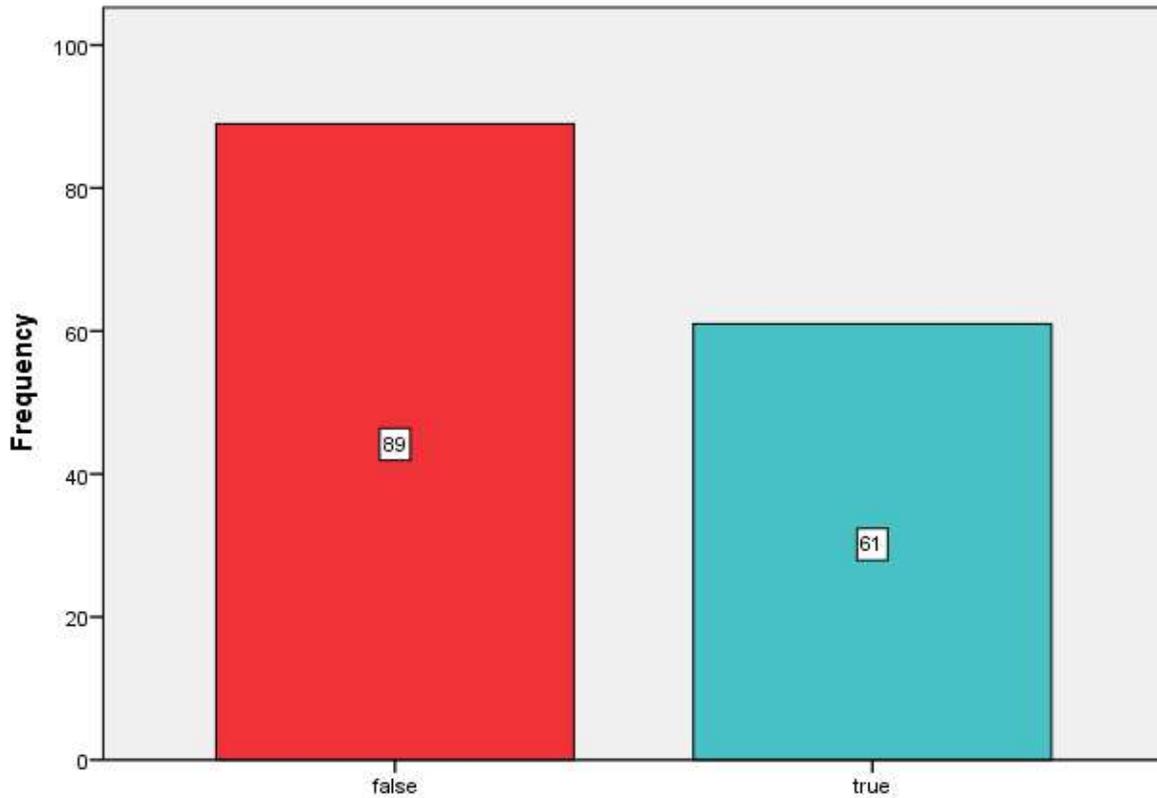


Fig: 23

As shown in the above table & Fig #23, the subject respond to question (23) majority of the subject respond correctly (true) is 41(28%) while minor number of the participants responds to incorrectly (No) is 109 (72%) out of 150 participants.

Table No: 24
HBV has post exposure prophylaxis?

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid false	89	59.3	59.3	59.3
Valid true	61	40.7	40.7	100.0
Total	150	100.0	100.0	



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Fig: 24

As shown in the above table & Fig #24, the subject respond to question (24) majority of the subject respond correctly (true) is 61(40%) while minor number of the participants responds to incorrectly (No) is 89 (60%) out of 150 participants.

Table No: 25
 Hepatitis B can be cured/treated?

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid false	103	68.7	68.7	68.7
Valid true	47	31.3	31.3	100.0
Total	150	100.0	100.0	

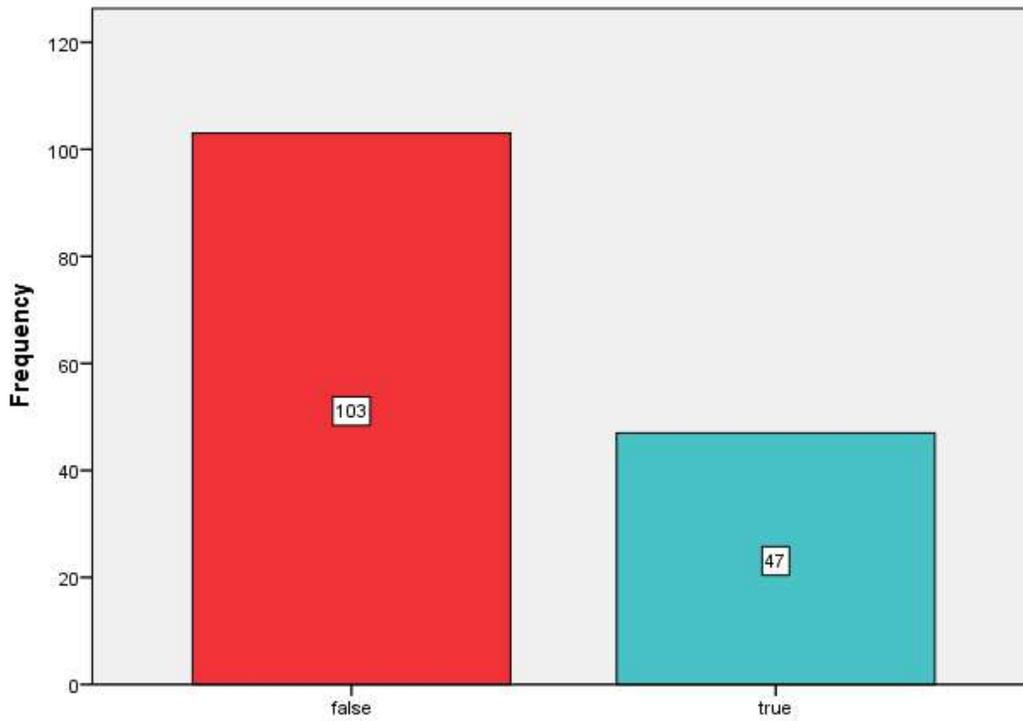


Fig: 25

As shown in the above table & Fig #25, the subject respond to question (25) majority of the subject respond correctly (true) is 47(31%) while minor number of the participants responds to incorrectly (No) is 103 (69%) out of 150 participants.

Table No: 26
Is hepatitis B infection preventable?

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid false	118	78.7	78.7	78.7
true	32	21.3	21.3	100.0
Total	150	100.0	100.0	

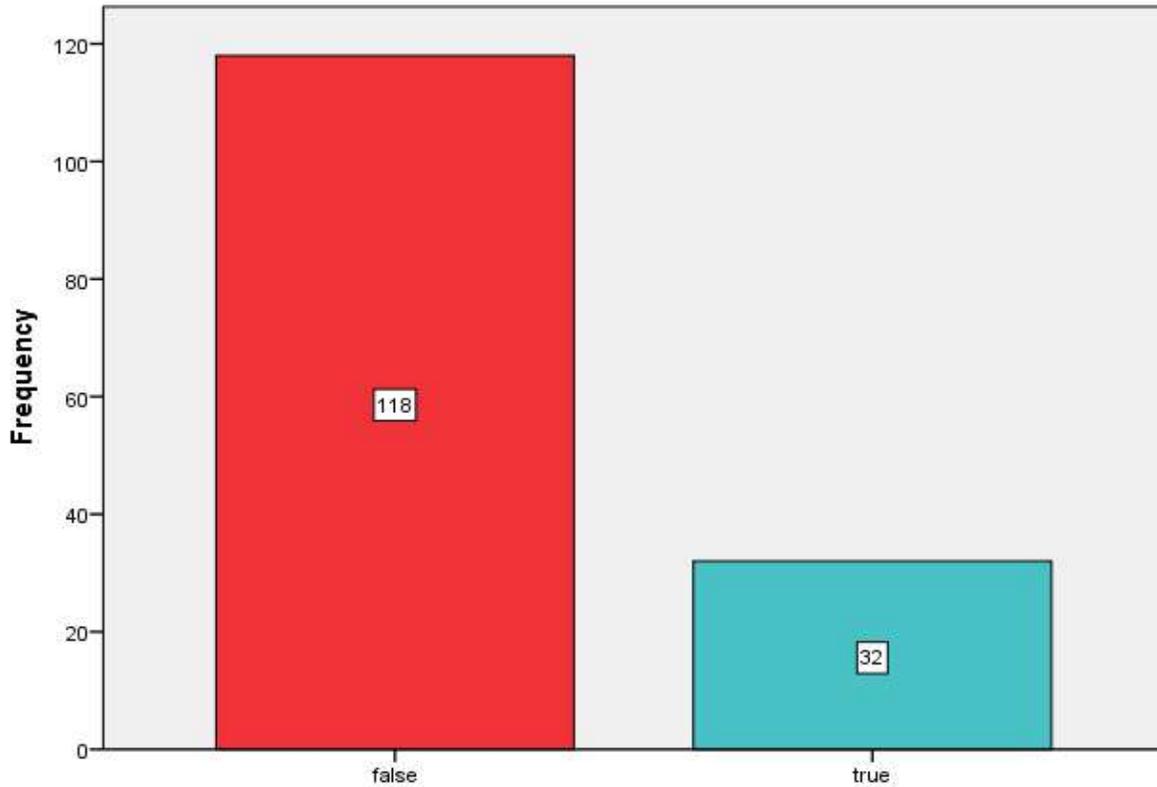


Fig: 26

As shown in the above table & Fig #26, the subject respond to question (26) majority of the subject respond correctly (true) is 32(21%) while minor number of the participants responds to incorrectly (No) is 118 (79%) out of 150 participants.

Table No: 27

Is there a laboratory test for HBV?

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid false	57	38.0	38.0	38.0
Valid true	93	62.0	62.0	100.0
Total	150	100.0	100.0	

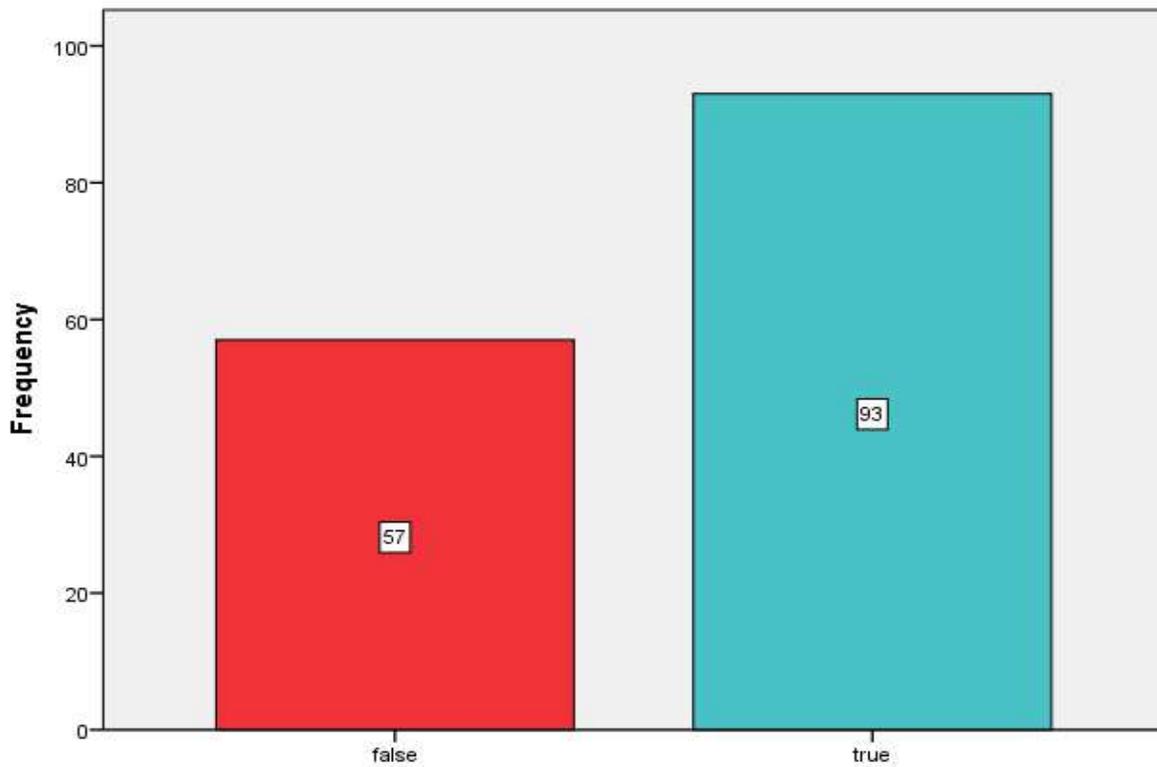


Fig: 27
 Institute for Excellence in Education & Research

As shown in the above table & Fig #27, the subject respond to question (27) majority of the subject respond correctly (true) is 93(62%) while minor number of the participants responds to incorrectly (No) is 57 (38%) out of 150 participants.

Table No: 28

Infected people are asymptomatic at the acute phase

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid false	98	65.3	65.3	65.3
true	52	34.7	34.7	100.0
Total	150	100.0	100.0	

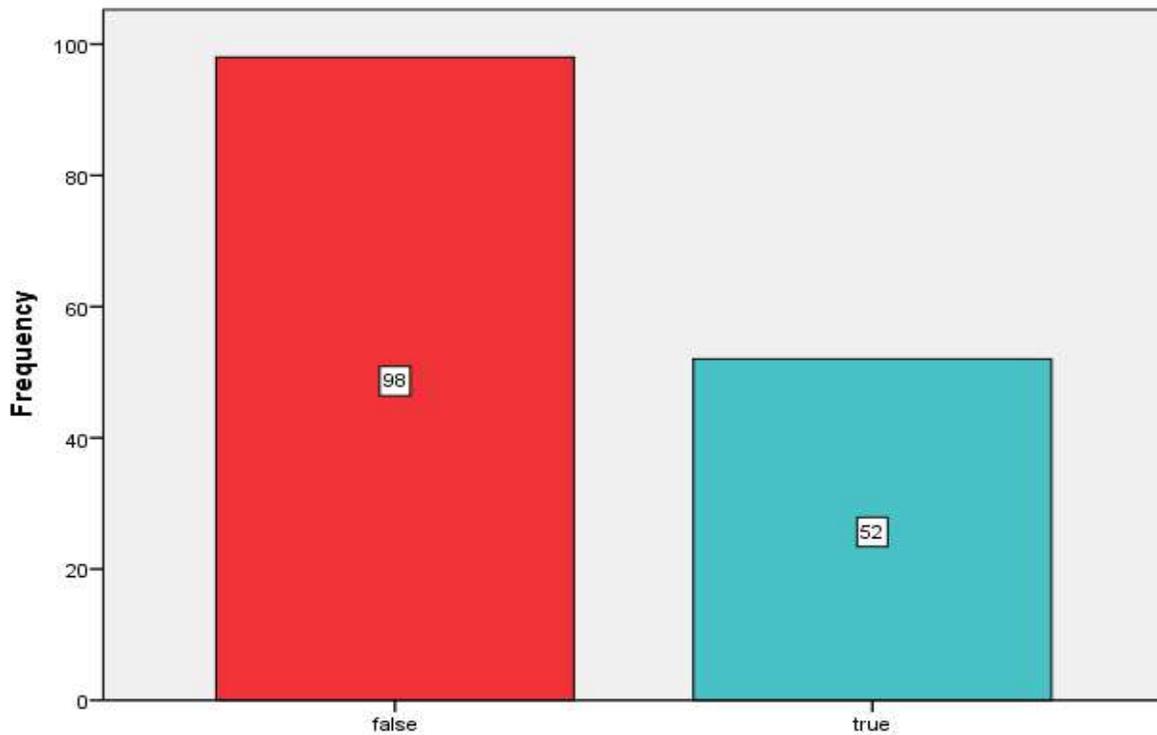


Fig: 28

As shown in the above table & Fig #28, the subject respond to question (28) majority of the subject respond correctly (true) is 52(36%) while minor number of the participants responds to incorrectly (No) is 98 (64%) out of 150 participants.

Table No: 29

Most of the patients with chronic hepatitis B infection are symptomatic

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid false	50	33.3	33.3	33.3
Valid true	100	66.7	66.7	100.0
Total	150	100.0	100.0	

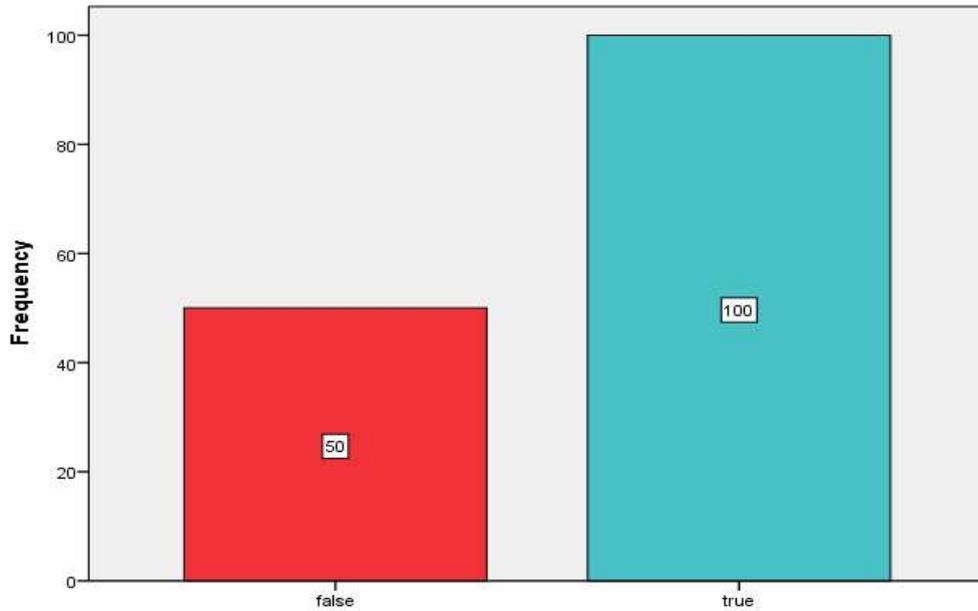


Fig: 29

As shown in the above table & Fig #29, the subject respond to question (29) majority of the subject respond correctly (true) is 100(68%) while minor number of the participants responds to incorrectly (No) is 50 (32%) out of 150 participants.

Table No: 30

Jaundice is a sign of hepatitis B infection

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid false	49	32.7	32.7	32.7
Valid true	101	67.3	67.3	100.0
Total	150	100.0	100.0	

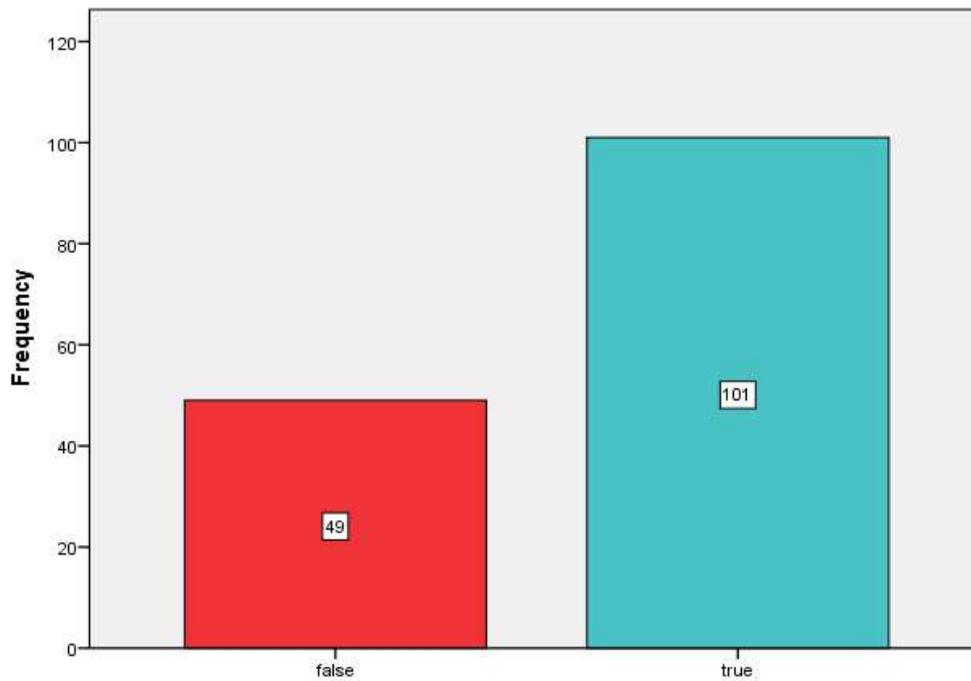


Fig: 30

As shown in the above table & Fig #30, the subject respond to question (30) majority of the subject respond correctly (true) is 101(68%) while minor number of the participants responds to incorrectly (No) is 49 (32%) out of 150 participants.

Table No: 31
Hepatitis B can affect other organs other than the liver

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid false	105	70.0	70.0	70.0
true	45	30.0	30.0	100.0
Total	150	100.0	100.0	

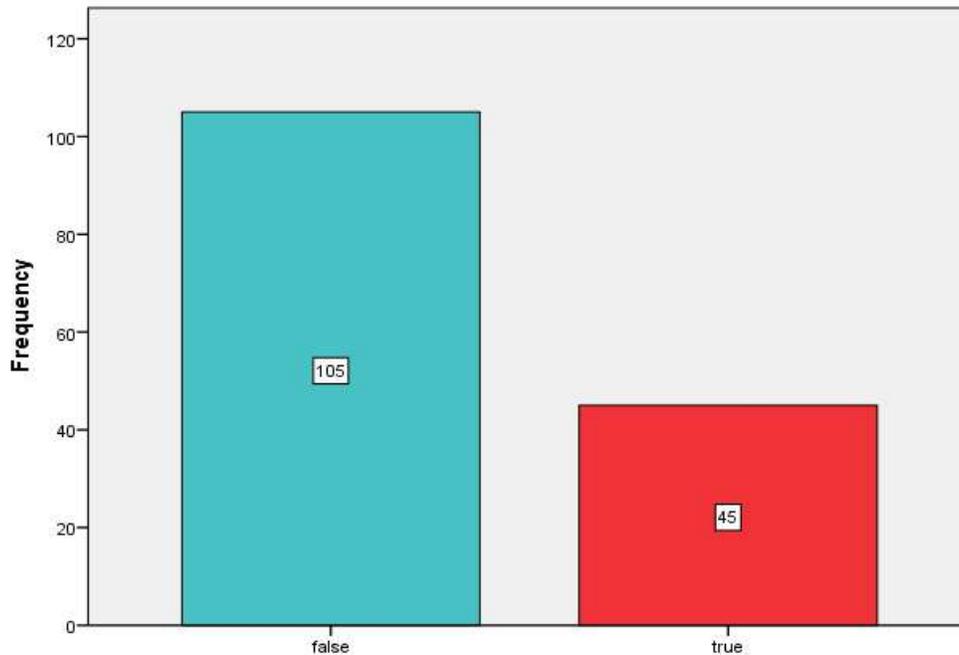


Fig: 31

As shown in the above table & Fig #31, the subject respond to question (31) majority of the subject respond correctly (true) is 45(30%) while minor number of the participants responds to incorrectly (No) is 105 (70%) out of 150 participants.

A total of 150 subjects were present in the present study. Age of the study participant's is from 18 to 24 years. The highest proportion of study participants (85%) was found in the age group of 18-20 years. In our study (85%) participants had 1st years of nursing students and the remaining were the 2nd and 3rd years nursing students.

Socio demographics characteristics of the study participants

Age

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 18 to 20	85	56.7	56.7	56.7
20 to 22	54	36.0	36.0	92.7
22 to 24	11	7.3	7.3	100.0
Total	150	100.0	100.0	

Gender

	Frequency	Percent	Valid Percent	Cumulative Percent

	Male	64	42.7	42.7	42.7
	Female	86	55.3	55.3	98.0
Valid	3.00	2	1.3	1.3	99.3
	4.00	1	.7	.7	100.0
	Total	150	100.0	100.0	

Educational Status

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	BSN 1st year	60	40.0	40.0
	BSN 2nd year	60	40.0	80.0
	BSN 3rd year	30	20.0	100.0
	Total	150	100.0	100.0

Assessment of knowledge and practice regarding hepatitis B infection among nursing student (Knowledge questionnaire)

Knowledge questions	yes	no
Have you heard about hepatitis B infection?	137	13
Is hepatitis B an infectious disease?	89	61
Do you think doctors and medical students are at risk of acquiring hepatitis B infection from the patients?	61	89
HBV is 200 times transmissible than HIV?	60	90
Hepatitis B is resistant to alcohol and some detergents?	68	82
HBV could be an infectious outside the body (e.g., in the environment)	59	91
Hepatitis B can transmit by fecal-oral?	41	109
Hepatitis B can transmit by mother to child?	48	102
Hepatitis B can transmit by contaminated water?	48	102
Hepatitis B can transmit by sexual contact?	51	99
Carriers can transmit hepatitis B?	58	92
Hepatitis B can transmit by handshaking?	79	71
Hepatitis B can transmit by contact with open wounds?	66	84
Hepatitis B can transmit by blood and body fluid?	52	98
Hepatitis B can transmit by unsterilized syringe, the needle?	58	92
HBV causes liver cancer	54	96
HBV carriers can transmit the infection	54	96
HBV spread by casual contact such as hand shacking	56	94
HBV spread by contact with open wounds/cut?	65	85
HBV can be transmitted by contaminated blood and body fluids	41	109
HBV has post exposure prophylaxis	61	89
Hepatitis B can be cured/treated	47	103
Is hepatitis B infection preventable?	32	118

Is there a laboratory test for HBV?	100	50
Infected people are asymptomatic at the acute phase	52	98
Most of the patients with chronic hepatitis B infection are symptomatic	100	50
Jaundice is a sign of hepatitis B infection	101	49
Hepatitis B can affect other organs other than the live	45	105

DISCUSSION

The purpose of recent study is to assess the knowledge of nursing students regarding hepatitis B virus infection. As inference from the study socio demographics, total of 150 nursing student were participated in this study, majority of them (86) were female, remaining 64 were male. Age of the participants respectively were; 85 subject had age between 18 to 20 year, followed 54 who had age between 20 to 22 year and only 11 subject had age between 22 to 24 year. Majority of them (60) had qualification of BSN 1st year, similarly, 60 students were from BSN 2nd year and only 39 students had from BSN 1st year.

As inference from the knowledge questionnaire component of this study, majority of the study subject had insufficient level of knowledge regarding hepatitis B infection. When asked about the route of transmission of hepatitis B virus “HBV can be transmitted by contaminated blood and body fluids”, most of the study students (109) did not know about it. Even most of the study participants (118) responds that there is no preventive way for hepatitis B virus infection “Is hepatitis B infection preventable? 109 students think that hepatitis B virus cannot be transmitted by fecal- oral route, which is wrong. Similarly, as we know that hepatitis B virus can be transmitted to fetus, but here in this study out of 150 students, 102 responds incorrectly, which ultimately show their low level of knowledge regarding route of transmission of hepatitis B virus infection. A question which asked “HBV causes liver cancer” 54 students belief that hepatitis B virus causes liver cancer while 96 disagreed with the given statement. However, there were some question in this study to which accuracy response was high. When asked “Is there a laboratory test for HBV? Most of them (100) respond yes. Similarly, out of 150

subject, 137 heard about hepatitis B virus infection.

A study conducted in Bangladesh from January to April 2023. The purpose of which is to how knowledge, attitudes, and sociodemographic factors are associated with HBI (Hepatitis B infection prevention among a sample of Bangladeshi nursing students. Total of 737 students were participated in this study. A random sampling model technique was utilized. From their statistics, it was revealed that participants had low level of knowledge about Hepatitis B infection, and they also had poor attitude towards HBI prevention, due to which participant had poor practice regarding hepatitis B infection prevention. The study advocate for focusing on education and policies, skill development, and proper hepatitis B infection prevention are some of the way, that will control hepatitis B infection spreading(Tamanna, Paul et al. 2024).

Another study in the upper west region of Ghana was conducted among nursing student. The study aimed to assess the knowledge, attitude, and practice of hepatitis B infection prevention among nursing students. This is done online in November 2020 through, stratified random sampling utilization. Total subject of the study was 402. It was found that students had moderate median score for knowledge (12.00; IQR = 10-13) and attitude (6.00; IQR = 5.00-7.00) but a poor median score (5.00; IQR = 4.00-6.00) for the practice of HBI prevention. However, the study concluded that the KAP score for hepatitis B infection among nursing students were sub-optimal. The study emphasized for educational program conduction and the enforcement of proper professional conduct on hepatitis B virus infection prevention(Balegha, Yidana et al. 2021).

An educational based interventional study was done in Kushabhau Thakre Nursing College, Kolar Road, Bhopal. The study was done on nursing students. Sample size was 200 students. The study aimed to assess knowledge towards hepatitis B/ hepatitis C virus awareness, prevention and control, and to assess these parameters after educational intervention among nursing students. The study finds that although a considerable population were aware hepatitis B/C infection, but their knowledge on prevention of hepatitis B/C was low, and majority of them were unable to differentiate between Hepatitis B and Hepatitis C. Participants also had confusion about the transmission ways of Hepatitis B/HCV transmission(Mahore, Mahore et al. 2015).

A cross sectional study was conducted by department of Community Medicine, Government Medical College, Jagdalpur, Chhattisgarh in July 2016. The objective of the study was to investigate knowledge of nursing students regarding Hepatitis B infection, its prevention, and vaccination status. Total of 218 nursing students were participated in the study. Purposive sampling technique were utilized. The study revealed that there is a lack of knowledge with nursing students regarding hepatitis B infection treatment. The study recommends that studies regarding hepatitis B infection should be conducted on medical and nursing students, so that to assess their knowledge, and based on them do some action for it to raise awareness and prevent hepatitis B infection as much as possible(Nalli, Sinha et al. 2017).

Conclusion:

The present study concluded that there is a lack of knowledge among nursing students regarding hepatitis B virus infection. Particularly, in the domain of hepatitis B virus infection transmission route participants has less knowledge. However, general knowledge on hepatitis B virus, impact on other body function, and its investigational test was high. Poor knowledge may be associated with lower literacy level of some of the participants, so this study emphasized to conduct proper awareness

program for a student to improve their knowledge regarding hepatitis B virus infection.

Limitation of the study:

- Poor knowledge in this study is not generalize to all nursing students, because it may be due lower literacy level of some students.
- Some students due to privacy disclosure not participated in this study.

Recommendations:

As from conclusion portion of this study, it is recommended that;

- Conduction of awareness program for nursing students
- Proper guidelines explanation by lecturer to their students on hepatitis B virus infection
- Community involvement in hepatitis B virus infection prevention ways.

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