

## ATTITUDE AND PRACTICE TOWARDS HEPATITIS B AMONG HEALTHY POPULATION OF NORTH , SAUDI ARABIA: A CROSS SECTIONAL STUDY

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### ABSTRACT

**Background:** In the Kingdom of Saudi Arabia (KSA), viral hepatitis represents a major public health problem. KSA used to be among the countries which had the highest endemicity of seropositive hepatitis B surface antigen (HBsAg). Prevention against any disease is proportional to KAP of the population. There is deficiency of data from Arar city, KSA, and KAP towards HB among healthy population is never determined. So this study aimed to assess knowledge, attitudes and practices of healthy population towards HB in Arar, Saudi Arabia. **Participants and methods:** A cross sectional, descriptive study was carried out in Arar city during the period from February to June 2016. 421 individuals (aged 18 years and above) were approached for the

study. KAP towards HB was assessed by using a pre validated questionnaire. Descriptive statistics were used for elaborating patients' demographic characteristics. **Statistical analysis:** Collected data were coded and analyzed using statistical package for the social sciences (SPSS, version 16). **Results:** Out of 421 distributed questionnaires, 409 were Saudi, 178 were males, and majority of them were between 18 and 27 years of age. 407 of the participants were healthy and free from HB, but 389 has infected member in the family. There is negative moderate highly significant correlation between knowledge and attitude of studied population towards hepatitis B infection ( $r=0.544^{**}$ ), weak significant correlation between knowledge and practice ( $r=0.170$ ) and weak significant correlation between attitude and practice ( $r=0.199$ ). **Conclusion:** In conclusion, we are reporting a good level of HBV awareness among the population of Arar city. Our findings indicate also adequate knowledge of the basics of infection control and the prevention of transmission of HB. We also referred to importance of health education programs to limit the infection rate. Empowering the

people by providing them ample education and targeting at least one member of each family to have adequate information about HB can help in managing and controlling the infection.

## BACKGROUND

Hepatitis B virus (HBV) is a hepadnavirus. Chronic hepatitis B infection is endemic in Asia and Africa with more than 75% of the world's chronic HBsAg carriers being of Asian and African origins.<sup>[1]</sup> It is a serious and common infectious disease of the liver. In 2009, The World Health Organization (WHO) reported HB to infect nearly 2 billion people around the globe. Furthermore, out of those 2 billion, 350 million suffered from chronic, lifelong infection.<sup>[2]</sup> HBV is transmitted by the sexual route<sup>[3]</sup> and marriage across races could expose people from low incidence areas to HBV. There is high prevalence of HBV infection among hospital workers.<sup>[4]</sup> Moreover, hospital workers have low participation in vaccination programs, especially those whose work exposes them to the risk of HBV infection.<sup>[5,6]</sup>

Knowledge, attitude, and practice (KAP) surveys are representative of a specific population to collect information on what is known, believed and done in relation to a particular topic, and are the most frequently used study tool in health-seeking behavior research.<sup>[7]</sup> Knowledge is usually assessed in order to see how far community knowledge corresponds to biomedical concepts.<sup>[8]</sup> Typical questions include knowledge about causes and symptoms of the illness under investigation. People reported knowledge which deviates from biomedical concepts is usually termed as 'beliefs'.<sup>[9]</sup> Attitude has been defined as "a learned predisposition to think, feel and act in a particular way towards a given object or class of objects".<sup>[10]</sup> As such, attitude is a product of a complex interaction of beliefs, feelings, and values. Practices in KAP surveys usually enquire about the use of preventive measures or different health care options. Normally, hypothetical questions are asked, therefore it hardly permits statements about actual practices, rather, it yields information on people's behaviors or on what they know should be done.<sup>[11]</sup>

PHC physicians will be in the forefront of managing patients with chronic hepatitis B infection and most hepatitis B infections are identified at the primary care level.<sup>[12,13]</sup>

For children, the risk of infection is higher and acute hepatitis is sometimes serious and may be fatal because of their immature immune system. A study made in Egypt by A Youssef found that HBsAg was detected in 27% of the cases, while the other 73% were negative.

There were no significant clinical differences among children according to the type of hepatitis.<sup>[14]</sup>

As discussed earlier, the frequency of HB is increasing progressively worldwide, prevention is considered as one best way to safeguard populations' health. Prevention against any disease is proportional to KAP of the population. Therefore, KAP studies play an imperative role in determining the information of a society and are widely used in population reported assessment research worldwide. To the contrary, up to our knowledge, there is deficiency of data from Arar city, KSA, and KAP towards HB among healthy population is never determined. In spite of the efforts made by authorities to raise knowledge and awareness about HB, no progress is reported.

In the present conditions, there is a need to assess the KAP status of healthy individuals towards HB so that the information can be used to develop a better and need based program for the society.

### **Study objective**

The current study aimed to assess knowledge, attitudes and practices (KAP) of healthy population towards HB among population of Arar city, Northern Saudi Arabia.

### **Participants and methods**

A cross sectional, descriptive study was carried out in Arar city during the period from February to June 2016. Arar city is the regional headquarters of the northern border province of Saudi Arabia. It has a watering station and a power station. It engages in a wide range of agricultural activities including the production of dates and the managing of livestock (camels, goats and sheep). Arar is the crossing point for many of the Iraqi pilgrims entering the Kingdom to perform Hajj.

Healthy 421 individuals (aged 18 years and above) with no physical and mental mutilation, not using any type of medication, and familiarity with (National Arabic language of KSA) were included in the study. Patients having reported illness and immigrants from other countries were excluded from data collection.

KAP towards HB was assessed by using a pre validated self administered, 35 itemed questionnaire comprising of four sections was used for data collection. In addition to the demographic data, 20 questions explored knowledge towards HB, 7 questions focused on

attitude and 8 questions addressed practices towards HB. Respondents were asked to answer in limited as well as multiple choice formats.

### Ethical considerations

Data collector gave a brief introduction to the students by explaining the aims and benefits of the study. Informed written consent was obtained from all participants. Anonymity and confidentiality of data were maintained throughout the study. There was no conflict of interest.

### Statistical analysis

Collected data were coded and analyzed using statistical package for the social sciences (SPSS, version 16). Descriptive statistics were used for elaborating patients' demographic characteristics.

## RESULTS

Table (1) shows the background characteristics of studied Participant. The majority of the Participants in the study were Saudi and only 2.9% were Non-Saudi, 97.1 of the total number were residents in Saudi Arabia. 42.3% of participants were males and 57.7% were females.

About half of participants were between 18 and 27 years of age, 74.3% were high educational level, and 96.7% of the total was not infected with HB. By asking the servants about their source of information about HB we found that, the newspapers and magazines were the information source for 13.5% of them, health workers were the source for 21.9%, family and friends for 16.6%, internet for 19.2%, 11.4% had the school as a source of their information, 9.5% depend on Publications as their source and 7.8% didn't know anything about HB.

**Table. (1): Characteristic of the study respondents (N=421).**

<i>Characteristic</i>	<i>No.</i>	<i>%</i>
<b>Gender</b>		
Male	178	42.3
Female	243	57.7
<b>Nationality</b>		
Saudi	409	97.1
Non-Saudi	12	2.9
<b>Residence</b>		
Arar	409	97.1
Outside Arar	12	2.9
<b>Age</b>		
18-27 year	213	50.6

28 -37 year	132	31.4
38 -47 year	63	15.0
48 – 57year	7	1.7
More than 57 year	6	1.4
<b>Educational level of those who answered questionnaire</b>		
Elementary	3	.7
Intermediate	11	2.6
High school	63	15.0
College	313	74.3
Postgraduate studies	31	7.4
<b>Occupation</b>		
Unemployed	116	27.6
Government Servant	175	41.6
Private Servant	30	7.1
Business " Self Employed"	6	1.4
Student	94	22.3
<b>Monthly income</b>		
Do not have a monthly income	143	34.0
Less than 5000 SR	79	18.8
5001 - 10000 SR	84	20.0
10001 – 15000 SR	83	19.7
More than 15000 SR	32	7.6
<b>The source of your information about hepatitis</b>		
Newspapers and magazines	57	13.5
Health workers	92	21.9
Family /Friends/Neighbors	70	16.6
TV/Radio/Internet	81	19.2
School	48	11.4
Publications and booklet and Other	40	9.5
I did not know about it	33	7.8
<b>Are you infected with hepatitis B</b>		
Yes	14	3.3
No	407	96.7
<b>Does a family member infected with hepatitis B</b>		
Yes	32	7.6
No	389	92.4
<b>No. of type of hepatitis</b>		
3	141	33.5
4	51	12.1
5	42	10.0
6	10	2.4
I don't know	177	42.0

### Assessment of knowledge towards Hepatitis B

Table (2) shows the responses to hepatitis B knowledge items among the study respondents. 33.5% of the total participants never heard of HB, 64.8% approved that hepatitis type B is a viral disease and 39.2% of them thought that HB causes liver cancer.

Most participants responded with "yes" when they were asked if HB disease affects all age groups, 55.3% said that HB disease cause no symptoms on some of patients. About 75% thought that HB can be transmitted by un-sterilized syringes, needles, surgical instruments and contaminated blood.

Also about 60% of the total participants agreed that HB can be transmitted by unsafe sex, contaminated water and food and from mother to baby.

When they have been asked about types of hepatitis, 42% didn't know about hepatitis types, 33.5% said they are three types, 12.1% said four, 10% said 5 types and 2.4% said that they are six types.

**Table. (2): Responses to hepatitis B knowledge items among the study respondents, Arar 2016.**

Hepatitis B knowledge items	Yes N (%)	No N (%)
Have you ever heard of a disease termed as Hepatitis?	379 (90)	42(10)
Have you ever heard of a disease termed as Hepatitis B?	280(66.5)	141(33.5)
Is Hepatitis type B viral disease?	273(64.8)	148(35.2)
Is Hepatitis Type B affects the liver function?	327(77.7)	94(22.3)
Is Hepatitis type "B" causes liver cancer?	165(39.2)	256(60.8)
Is Hepatitis type "B" affects all age groups?	284(67.5)	137(32.5)
The early symptoms of Hepatitis B are same like cold and flu (fever , running nose , cough):	116(27.6)	305(72.4)
Jaundice is one of the common symptoms of hepatitis B?	255(60.6)	166(39.4)
Are the nausea, vomiting and loss of appetite common symptom of hepatitis B?	225(53.4)	196(46.6)
*Are there no symptoms of the Hepatitis B in some of the patients?	233 (55.3)	188(44.7)
Can Hepatitis B be transmitted by un-sterilized syringes, needles and surgical instruments?	320(76)	101(24)
Can Hepatitis B be transmitted by contaminated blood and blood products?	332(78.9)	89(21.1)
Can Hepatitis B be transmitted by using blades of the barber/ear, nose piercing and Cupping?	300 (71.3)	121(28.7)
Can Hepatitis B be transmitted by unsafe sex?	256 (60.8)	165 (39.2)
Can Hepatitis B be transmitted from mother to child?	256 (60.8)	51 (12.1)
Can Hepatitis B be transmitted by contaminated	245 (58.2)	176(41.8)

water/food prepared by person suffering with these infections?		
Is Hepatitis B curable /treatable by medication?	275 (65.3)	146 (34.7)
Can Hepatitis B be self-cured by body without medical intervention?	45 (10.7)	376 (89.3)
Is vaccination available for Hepatitis B?	286 (67.9)	135 (32.1)
Is specific diet is required for the treatment of Hepatitis B?	206 (48.9)	215 (51.1)

### Assessment of attitude towards Hepatitis B

Attitude towards HB was assessed by asking seven questions as shown in Table (3): Majority of the respondent 222 (52.7%) believed that they can never get infected with HB. One hundred and twenty nine (30.6%) respondents stated that they will be surprised if they got infected with HB. 291 (69.1%) agreed to consult a physician as their first choice of treatment. However, 88.4% said that they will go to a health facility if they thought that they have symptoms of hepatitis, 85.7% said that they will go to the health facility as soon as possible after they realize the symptoms of hepatitis B.

**Table. (3): Attitude toward hepatitis B among the study population, Arar 2016.**

Hepatitis B attitude items	No.	%
<b>Do you think you can get Hepatitis B?</b>		
Yes	199	47.3
No	222	52.7
<b>What would be your reaction if you found that you have Hepatitis B?</b>		
Fear	175	41.6
Surprise	129	30.6
Sadness	117	27.8
<b>Who is the best for you to talk him about your illness?</b>		
Physician	291	69.1
Husband or wife	40	9.5
Parents	25	5.9
Child	1	.2
Other relatives	7	1.7
Friends	16	3.8
Nobody	41	9.7
<b>What will you do if you think that you have symptoms of Hepatitis B?</b>		
Go to a health facility.	372	88.4
Go to Hakeem.	19	4.5
Go to the traditional treatment "herbal".	18	4.3
Go homeopathy means "the substance that caused those symptoms will be used for the treatment of these symptoms.	12	2.9
<b>If you had symptoms of Hepatitis B, at what stage you will go to the health facility?</b>		

Treatment fails to respond	23	5.5
After 3-4 weeks of the onset of symptoms	22	5.2
As soon as possible after I realized the symptoms of hepatitis B	361	85.7
I would not go to the doctor	15	3.6
<b>What do you think about the cost of diagnosis and treatment of hepatitis B?</b>		
Free	164	39.0
Reasonable	17	4.0
Somewhat expensive	21	5.0
Expensive	38	9.0
I do not know	181	43.0
<b>What worries you most if you will be diagnosed with Hepatitis B?</b>		
Fear of death	115	27.3
Fear of the disease spreading to the family	246	58.4
The cost of treatment	13	3.1
Isolation from the society	47	11.2

### Assessment of practices towards Hepatitis B

44.7% stated a negative immunized status against HB. It was interesting to know that 66.7% agreed with the statement that they ask for screening of blood and blood products before transfusion. 21.4% respondents either never asked the barber to use new blade, or for safe and clean equipment for nose and ear piercing. Most the participants thought that they would go for further investigation and treatment if they are infected with HB. However, on the contrary majority of the study participants as shown in table (4) Majority of the respondents, 70.3% never went for HB screening and (79.3) agreed that they participated in health education program related to Hepatitis B.

**Table. (4): Practice related to Hepatitis B among the study population, Arar 2016.**

Hepatitis B practice items	Yes N (%)	No N (%)
Did you do screening for hepatitis B	125 (29.7)	296 (70.3)
Have you got yourself vaccinated against Hepatitis B?	188 (44.7)	233 (55.3)
Do you ask for a new syringe before use?	227 (53.9)	194 (46.1)
Do you ask for screening of blood before transfusion?	281 (66.7)	140 (33.3)
Do you ask your barber to change blade/Or for safe equipments for ear and nose piercing?	331 (78.6)	90 (21.4)
In case you are diagnosed with Hepatitis B, would you go for	373 (88.6)	48 (11.4)

further investigation and treatment?		
Do you avoid meeting Hepatitis B patients?	247 (58.7)	174 (41.3)
Have you ever participated in health education program related to Hepatitis B?	87 (20.7)	334 (79.3)

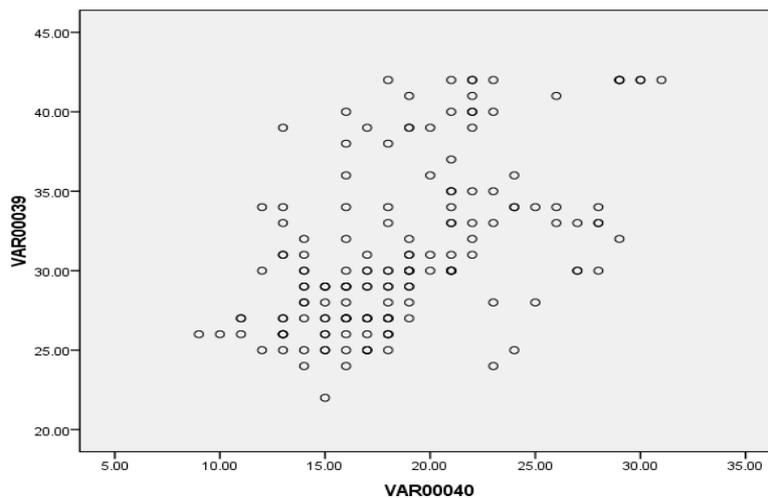
**Correlation between knowledge, attitude and practice**

As shown in tables and figures (5, 6, 7) there is a significant correlation between knowledge, attitude and practice.

In table (5) and figure (1), there is negative moderate highly significant Correlation between knowledge and attitude of studied population towards hepatitis B infection, Table (6) and figure (2) show that, there is week significant Correlation between knowledge and practice of studied population towards hepatitis B infection. And in table (7) and figure (3), there is weak significant Correlation between attitude and practice of studied population towards hepatitis B infection.

**Table. (5): Correlation between knowledge and attitude of studied population towards hepatitis B infection, Arar 2016.**

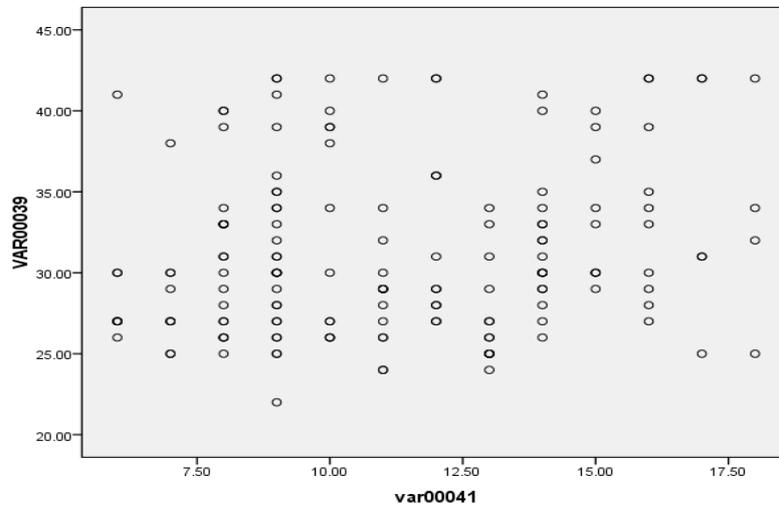
R	0.544**
Sig. (2-tailed)	0.000



**Figure. (1): Correlation between knowledge and attitude of studied population towards hepatitis B infection.**

**Table. (6): Correlation between knowledge and practice of studied population towards hepatitis B infection, Arar 2016.**

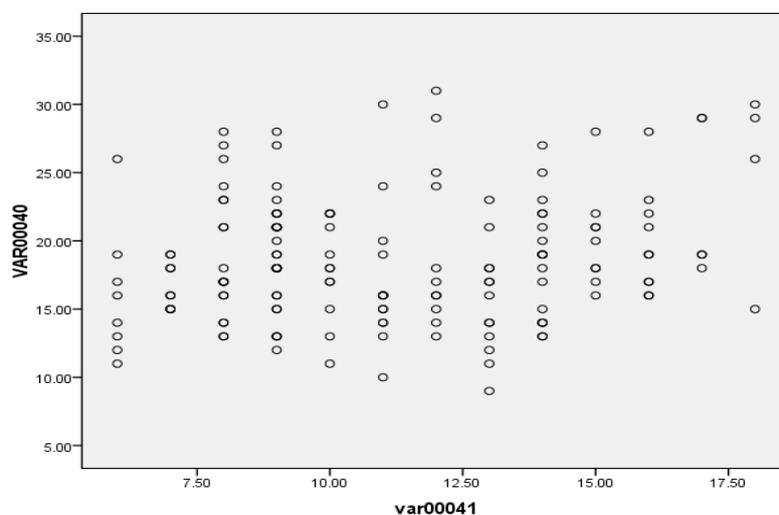
R	.170
P value	.031



**Figure. (2): Correlation between knowledge and practice of studied population towards hepatitis B infection.**

**Table. (7): Correlation between attitude and practice of studied population towards hepatitis B infection, Arar 2016.**

r	0.199
P value	.012



**Figure. (3): Correlation between attitude and practice of studied population towards hepatitis B infection.**

## DISCUSSION

The current study sought to evaluate KAP towards HB among healthy individuals. Results of the study revealed good KAP towards HB. A considerable percentage of respondents actually knew about transmission of HB. Good knowledge about HB transmission can be attributed to decrease the frequency of HB. 77.7% of the participant believed that HB can affect liver function and 39.2% believed that it cause liver cancer, which is a sign of good background about the disease. The primary source of information was through health workers and internet. These results are in the line with that was done in Egypt by Shalaby et al. (2007) reported that participants had adequate knowledge towards transmission, vaccination and treatment of HB.<sup>[15]</sup> On the other hand there were different findings from studies reported from other parts of world, as in Pakistan where the overall knowledge of the general population regarding HB was reported low<sup>[16,17]</sup> unlike what is reported from our study. This poor knowledge regarding HB and it's reported around the globe.<sup>[18,19]</sup>

Also, mean attitude score was also found higher in the study participants. Majority of the participants reported to consult a physician and go to a health facility as soon as possible after they realize the symptoms of hepatitis B.

These results were unlike what was reported by a study of same nature in Pakistan<sup>[20]</sup> where remedies, herbal Home and traditional therapies were the treatment of choice until there is no improvement in the sign and symptoms of HB. Consulting the physicians was sought as the last resort, when all other healing system fails to provide cure. In another study in Aljouf in Saudi Arabia made by AH Al-Hazmi on medical students, the results indicate that the majority of the students appeared unaware about the proper action after needle stick injury.<sup>[21]</sup> They also found; only 28.3% students surveyed will take HBV vaccine with HBV immunoglobulin immediately after needle stick injury from patient who is known with active HBV infection and this is lower level of knowledge and attitude in the same country (SA) but in a different city.

An important feature of patient care revolves around the Health Belief Model which highlights individuals' attitudes and beliefs responsible for particular health behavior.<sup>[20]</sup> Within this context, poverty, cultural beliefs and perceived severity of illness can be the reasons of seeking alternative methods of treatment. Though not infected yet, 9% of the participants perceived HB treatment as costly. This could be due to their experiences with friends and family members having difficulties in bearing the cost of HB treatment. Cost of

treatment wasn't problem between Arar population as 43% of the participants had no idea about it and 39% thought that it was free unlike the developing countries like Pakistan where the cost of diagnosis and treatment is a problem, access to the traditional healers is economical than seeking treatment at medical health care facilities so they seek them resulting in medical pluralism.

The study also proofed the high knowledge and attitude about the disease and its transmission. 58.4% of the participants were most worry about transmitting the disease to their family, also Participants of the current study showed moderate practice towards HB. Some of the participants were concerned about the safety measures which defiantly expose them to the danger of acquiring HB infection. 66.7% of participants ask for screening of blood before transfusion, 53.7% ask for a new syringe before use, and 44.7% vaccinated themselves against HBV.

On another study in a nearby country made by Shalaby in Egypt (2007) reported that the participants have good practice regarding hepatitis B hence have lower prevalence of infection.<sup>[15]</sup> Furthermore, the knowledge among participants was reported adequate by Shalaby et al., which is proportionately related to the attitude and practices of the participants.

Opposite results were reported by Razi and colleagues in 2010 from Pakistan<sup>[22]</sup> and Kabir et al. in 2010 from Iran<sup>[23]</sup> where the participants reported to have poor practices which were directly related to the knowledge and awareness regarding HB infection.

Although health education about this kind of vital health problems is essential in all countries, our study found that there is low percentage of health education between our participants. Only 20.7% of the participants participated in health education program related to Hepatitis B.

The negative moderate Correlation between knowledge and attitude, the weak significant Correlation between knowledge and practice and also between attitude and practice in our study reaffirm the relationship between knowledge attitude and practice with infection control measures. It is concluded that adequate knowledge can lead to positive attitude resulting in good practices. The findings are in line with the results presented by Singh et al. in 2010.<sup>[24]</sup>

## CONCLUSION AND RECOMMENDATIONS

In conclusion, we are reporting a good level of HBV awareness among the population of Arar city. Our findings indicate also adequate knowledge of the basics of infection control and the prevention of transmission of HB. Although health education campaign should be provided to general population and especially to the residents of rural areas, our study proofed a low level of health education among the participants. We also recommended the adaptation of collaborative care where physicians, pharmacists and nurses should play their role in providing HB education to the society. Empowering the people by providing them ample education and targeting at least one member of each family to have adequate information about HB can help in managing and controlling the infection.

## LIMITATIONS

The study was conducted in one city (Arar city) and therefore results of the research are not representative of the entire population of Saudi Arabia. Strengths of the current study included are the first study to obtain data on knowledge, attitudes, and practice of HBV in Arar population. Also, it refers to a common health problem and targets random group. In spite of our findings in this study, we acknowledge its limitations; actually, this is a relatively small scale study among Northern board in Saudi Arabia covering one city (Arar city).

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