

Impact of Educational Program on Knowledge, Attitude and Practice of Prisoners, Officers and Soldiers at Menoufia Governorate Prison, Egypt

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Abstract

Background: Prisons are considered facilities liable of high risk of infectious disease. Investigations carried out in prisons around the world have shown a high prevalence of blood borne hepatitis viruses. As there are few studies about blood borne hepatitis viruses knowledge among prisoners and security personnel. Those carried with other populations, point out that the lack of knowledge about the illness is one of the main barriers to the perception of the symptoms, early diagnosis, treatment adherence and cure.

Aim of Study: To estimate the level of knowledge, attitudes and practice related to HBV and HCV infections before and after an educational intervention among security personnel and prisoners.

Patients and Methods: Self-administered questionnaire was used to assess KAP of HBV and HCV infection of 324 prisoners and 68 security personals pre and post educational intervention. SPSS (Version 20) was used for analysis of data.

Results: The mass media were the major source of information (44.5%). Regarding knowledge and attitude about HBV and HCV infection, highly significant improvement ($p < 0.001$) was revealed among both security personnel and prisoners. Regarding practice, there was no improvement in post-intervention practice of prisoner ($p > 0.05$); however there was improvement in the practice of security personnel ($p < 0.001$). Knowledge and attitude scores of security personnel were evident irrespective of socio-demographic characteristics and history of hepatitis infections. Security personnel who were of urban residence had significantly better pre-intervention practice ($p = 0.006$). Overall KAP scores among prisoners were evident irrespective of socio-demographic characteristics. HBV & HCV infected prisoners ($p < 0.001$) were significantly more knowledgeable about these viruses before educational intervention.

Conclusions: We are reporting inadequate level of HBV and HCV awareness among the studied groups. The study confirms the necessity of continuous periodic health education programs as well as immunization programs, infectious disease

screening, treatment, and promotion of living conditions in prisons.

Key Words: Prisoners – Security personnel – HCV – HBV – Knowledge – Attitude – Practice.

Introduction

GLOBALLY, many studies on blood born hepatitis viruses (HBV & HCV) have been undertaken by various government and nongovernmental organizations among the general public. There are certain high risk groups in well-defined but restricted settings who are usually left out from the interventions they deserve especially in developing countries. Inmates of prisons are example of this left out population [1].

The prevention of blood-borne pathogen transmission is a high priority for the Ministry of Health and Population (MOHP) in Egypt [2]. Despite the availability of several reports concerning anti-Hepatitis C Virus (HCV) sero-positivity among apparently healthy Egyptian populations, little attention has been paid to HBV and HCV burden of Egyptian prisoners.

Hepatitis C is a worldwide problem, hepatitis C virus is a major cause of both acute and chronic hepatitis. The World Health Organization (WHO) estimates about 3% of the world's population has been infected with HCV and that there are more than 170 million chronic carriers who are at risk of developing liver cirrhosis and/or liver cancer [3].

Egypt has the largest epidemic of hepatitis C virus in the world. The recently released Egyptian Demographic Health Survey (EDHS) tested a rep-

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representative sample of the entire country for HCV antibody. Over 11000 individuals were tested. The overall prevalence positive for antibody to HCV was 14.7% [4].

Hepatitis B is a serious and common infectious disease of the liver affecting millions of people throughout the world. It is estimated that 350 million individuals worldwide are infected with the virus, which cause 620,000 deaths worldwide each year. Egypt is considered an area of intermediate endemicity for the virus as the prevalence of HBV chronic carriers among adults in the general population ranged from 2% to 7% [5].

Prisons are known for connection of high risk of infection diseases [6] as a result of possibility of transmission of infections in prisons surroundings [7]. Persons with inferior health status are main representatives among those who have contact with criminal juristic system [8].

Investigations carried out in correctional facilities around the world have shown a high prevalence of blood borne hepatitis viruses [9]. Among high-risk environments, prisons are well-known establishments for spreading of blood-borne viruses. Those who use illicit drugs or engage in sex work are often incarcerated. In addition, during imprisonment, prisoners often engage in unprotected sex, syringe/needle sharing, or sharing of other paraphernalia (spoon, water) [10], tattooing and scarification are also common [11].

Lack of awareness of the risk of HBV and its consequences are recognized as a major deterrent to immunization among HBV high risk groups [12].

Within the prisons, prison officers potentially have a vital role in maintaining a secure and healthy living environment for the inmates. Besides performing daily security checks and search procedures, a prison officer has responsibilities, such as providing appropriate care and support for inmates and making sure that inmates have access to professional help when needed. Ideally, prison officers must be able to establish and maintain a positive working relationship with inmates, balancing authority with care and understanding [13].

The guidance suggests that as well as improving services for prisoners, ongoing educational program to improve awareness of the risks of HBV and HCV should be provided to staff in prison and youth offender. This would not only help to reduce the stigma of BBVs across the whole prison estate but would enable staff to take necessary precautions

to protect themselves from the risk of occupational infection. As rates of BBVs are higher amongst prisoners than the general population, prisons can be considered an environment at elevated risk of infection [14].

Subjects and Methods

Participants in the study were categorized into: Prisoners and security personnel. The current study was conducted on 324 prisoners which were categorized into 246 males and 78 females out of 750 eligible prisoners captured in Shebin El-Kom Public Prison (Menoufia Governorate, Egypt) From January 2016 till January 2018. The involved personnel were selected randomly by systematic random sample technique (data from prison list). And also, 68 security personal out of 80 ones working in prison were included in the study which were categorized into 10 policemen, 25 soldiers, 6 jailers, 14 prison employee and 13 prison health care workers. They have been selected randomly upon the instructions of the prison authorities and their work shift time.

Study design:

An intervention design with pre-and post-education assessment of KAP about HBV and HCV infection was completed among the selected prisoners as well as security personnel working in Shebin El-Kom Public Prison (Menoufia Governorate, Egypt). All participants completed both pre-and post-intervention questionnaires. The KAP of HBV and HCV infection were assessed using a structured questionnaire completed immediately before and after the educational intervention for prisoners and immediately before and after 6 months from education intervention for security personnel. The study obtained all required ethical approvals from the Ethical Committees of Faculty of Medicine (Menoufia University), Media and Public Relations Department at the Ministry of the Interior, National Security Sector, and the Prison Service Directorate of Health Care. An oral consent was obtained from all participants.

Questionnaire:

The self-administered questionnaire was developed to assess the KAP of HBV and HCV infection among the study participants and the questions were based on previous surveys with similar objectives [15]. Additionally, the validity of the questionnaire was tested after Arabic translation. The final version of the questionnaire had a good indicator for reliability (as indicated by Alpha Cronbach test value of 0.82 for knowledge and 0.77 for

attitude and practice). Sections of the administered questionnaire included personal and socio-demographic characteristics, general health status, and source of previous knowledge and KAP of HBV and HCV infection which included (22 questions to assess knowledge, 11 questions for attitude and 10 questions for practice).

Educational intervention:

It was established according to the standard principles of designing and implementing a health education program [16]. The educational intervention was provided through; lectures about 16 lectures each session lasted 3 hours and included only 20-25 new participants, distributing educational leaflets (including HBV facts, risk factors, hazard to population, misconceptions and misunderstanding of HBV and HCV, prevention tools and how to deal with an infected person) and granting booklet providing detailed information about viral hepatitis B and C.

Statistical analysis:

Data were presented using descriptive statistics in the form of frequencies and percentages for categorical data overall KAP score was the sum of correct responses to the 43 questions. Two points were given for the correct answer, one point for to some extent and zero for the wrong answer. KAP score and its components' scores were treated as non-parametric data and compared between pre- and post-intervention using Wilcoxon signed rank test. Satisfactory knowledge, positive attitude and good practice is considered if their score were >50%. Both pre- and post-intervention KAP scores and their components' scores were compared across socio-demographic characteristics using chi-square test or Fisher exact test as appropriate. All *p*-values were two-tailed. *p*-value <0.05 was considered as significant. SPSS software (Version 20.0) SPSS Inc., Chicago, U.S. was used for all statistical analyses.

Results

77.9% of security personnel and 75.9% of the studied prisoners were male, 61.8% of security personnel and 67.3% of prisoners were <40 years, the majority of security personnel (86.8%) and of prisoners (73.8%) were married, the majority of prisoners (67%) were of rural residence while the majority of security personnel (63.2%) were of urban residence, 67.3% of the studied prisoners could not read and write, 67.7% of security personnel had <10 years service duration at Shebin El-Kom Public Prison and 83.6% of the studied

prisoners spent <10 years at this prison (Table 1). The most common sources reported for such knowledge were TV/Radio (44.5%), health services (24.8%), other sources like family and friends (24.2%), school and college (6.5%) Fig. (1). The study results showed marked improvement of overall knowledge and attitude after educational intervention [*p*-value <0.001]; however, there was no improvement in practice of prisoners (*p*>0.05) (Table 2). Only 38.2% of the studied security personnel had satisfied level of knowledge toward viral hepatitis which had been improved into 98.5% of them were with satisfied level of knowledge. 70.6% of studied security personnel had positive attitude toward viral hepatitis prior to health education program which improved into 100%. Percentages of studied security personnel with good practice prior to health education program were 64.7% which improved into 94.1% (Table 2). However, only 1.9% had satisfied level of knowledge toward viral hepatitis which had been improved into 67.3% of studied prisoners were with satisfied level of knowledge after implementation of health education program. Only 16% of studied prisoners had positive attitude toward viral hepatitis prior to health education program which improved into 79%. Percentages of studied prisoners with good practice prior to health education program were 5.6%. But this percentage did not change after implementation of health education program (Table 2). Regarding knowledge score component of security personnel, 39.7% of them knew different mode of HBV & HCV transmission, 29.4% knew clinical picture and 39.7% knew about preventive and control measures which had been improved into 97.1%, 100%, 97.1% respectively after implementation of health education program Fig. (2). Regarding knowledge score component of prisoners, only 3.7% of them knew mode of transmission and preventive and control measures, 4% knew clinical picture which had been improved into 86.7%, 31.2%, 42.9% respectively Fig. (3). In the current work, there was no significant association between all participants and their socio-demographic data regarding their overall knowledge and attitude score about hepatitis B and C (Tables 3,4), however there was significant association between practice score of security personnel and their residence (75% urban versus 25% rural) before educational intervention (Table 3). Pre-intervention KAP scores of security personnel were not significantly associated (*p*-value >0.05) with previous history of HBV and/or HCV infections, however HBV & HCV infected prisoners (*p*<0.001) were significantly more knowledgeable about these viruses before educational intervention (Table 5).

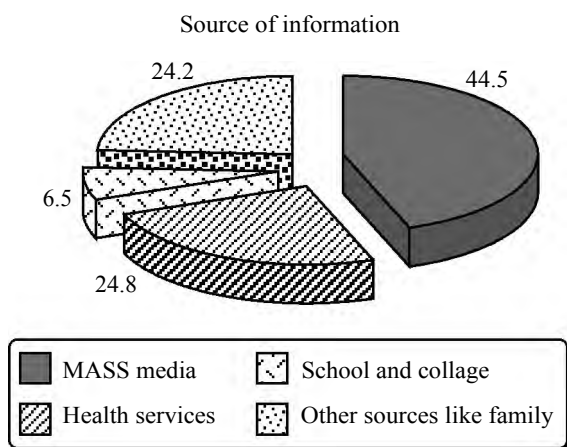


Fig. (1): The main sources of information about hepatitis B & C among the studied group before intervention.

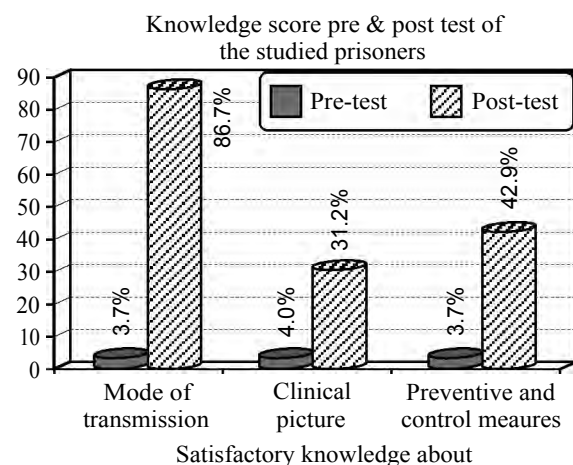


Fig. (3): Knowledge scores of the studied prisoners about HBV and HCV before and after application of health education program.

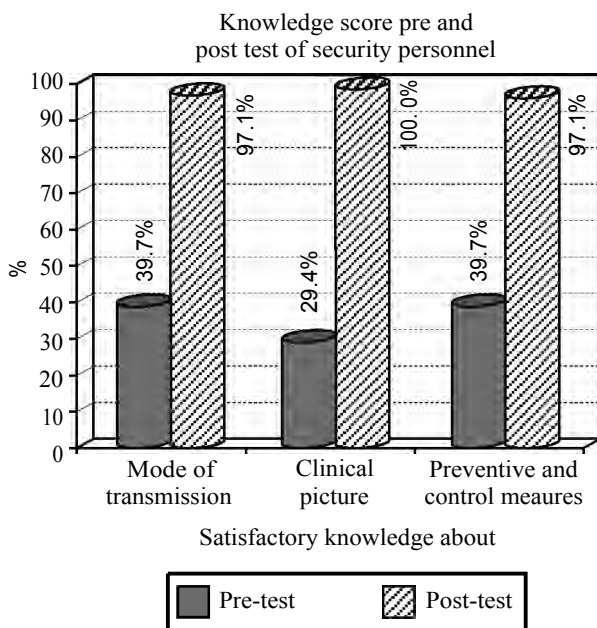


Fig. (2): Knowledge scores of security personnel about HBV and HCV before and after application of health education program.

Table (1): Socio demographic criteria among the studied groups.

| Socio demographic data | The studied prisoners N=324 | | Security personnel N=68 | |
|-------------------------------|--------------------------------|------|----------------------------|------|
| | No | % | No | % |
| <i>Age groups:</i> | | | | |
| <40 | 218 | 67.3 | 42 | 61.8 |
| >40 | 106 | 32.7 | 26 | 38.2 |
| <i>Sex:</i> | | | | |
| Male | 246 | 75.9 | 53 | 77.9 |
| Female | 78 | 24.1 | 15 | 22.1 |
| <i>Marital status:</i> | | | | |
| Married | 239 | 73.8 | 59 | 86.8 |
| Unmarried | 85 | 26.2 | 9 | 13.2 |
| <i>Education:</i> | | | | |
| Illiterate | 218 | 67.3 | | |
| Educated | 106 | 32.7 | 68 | 100 |
| <i>Residence:</i> | | | | |
| Rural | 217 | 67 | 25 | 36.8 |
| Urban | 107 | 23 | 43 | 63.2 |
| <i>Work duration:</i> | | | | |
| <10 years | | | 46 | 67.7 |
| >10 years | | | 22 | 32.4 |
| <i>Imprisonment duration:</i> | | | | |
| <10 years | 270 | 83.6 | | |
| >10 years | 53 | 16.4 | | |

Table (2): Assessment of knowledge, attitude and practice (pre and post-test) among studied security personal and prisoners.

| KAP | KAP of security personnel | | | | | KAP of prisoners | | | | |
|-------------------|---------------------------|------|-------------|------|---------|------------------|------|--------------|------|---------|
| | Pre (n=68) | | Post (n=68) | | p value | Pre (n=324) | | Post (n=324) | | p value |
| | No | % | No | % | | No | % | No | % | |
| <i>Knowledge:</i> | | | | | | | | | | |
| Satisfactory | 26 | 38.2 | 67 | 98.5 | 0.001 | 6 | 1.9 | 218 | 67.3 | 0.001 |
| Unsatisfactory | 42 | 61.8 | 1 | 1.5 | | 318 | 98.1 | 106 | 32.7 | |
| <i>Attitude:</i> | | | | | | | | | | |
| Positive | 48 | 70.6 | 68 | 100 | 0.001 | 52 | 16.0 | 256 | 79.0 | 0.001 |
| Negative | 20 | 29.4 | 0 | 0.0 | | 272 | 84.0 | 68 | 21.0 | |
| <i>Practice:</i> | | | | | | | | | | |
| Good | 44 | 64.7 | 64 | 94.1 | 0.001 | 18 | 5.6 | 18 | 5.6 | 1000 |
| Poor | 24 | 35.3 | 4 | 5.9 | | 306 | 94.4 | 306 | 94.4 | |

p>0.05 (not significant).

p<0.05 (Significant).

p<0.001 (Highly Significant).

Table (3): Association between socio-demographic data and KAP scores of security personnel and prisoners before application of health education program.

| Socio-demographic data | Pre-intervention KAP of security personnel (N=68) | | | | | | | | | | | | | | | | | |
|---|---|---------|----------------|-----------|----------|---------|----------|----------|----------|-----------|----------|---------|----------|---------|--------|-----------|----------|---------|
| | Knowledge | | | | | | Attitude | | | | | | Practice | | | | | |
| | Satisfactory | | Unsatisfactory | | χ^2 | P-value | Positive | | Negative | | χ^2 | P-value | Good | | Poor | | χ^2 | P-value |
| | N (26)* | % (6)** | N (42)* | % (318)** | | | N (48)* | % (52)** | N (20)* | % (271)** | | | N (44) | % (18)* | N (24) | % (306)** | | |
| Age: | | | | | | | | | | | | | | | | | | |
| <40 years | 17 | 65.4 | 25 | 59.5 | 0.23 | 0.63 | 35 | 72.9 | 7 | 35.0 | 8.59 | 0.003 | 30 | 68.2 | 12 | 50.0 | 2.17 | 0.14 |
| ≥40 years | 9 | 34.6 | 17 | 40.5 | | | 13 | 27.1 | 13 | 65.0 | | | 14 | 31.8 | 12 | 50.0 | | |
| Sex: | | | | | | | | | | | | | | | | | | |
| Male | 22 | 84.6 | 32 | 76.2 | 0.79 | 0.41 | 39 | 81.2 | 15 | 75.0 | 0.34* | 0.743 | 36 | 81.8 | 18 | 75.0 | 0.44# | 0.54 |
| Female | 4 | 15.4 | 10 | 23.8 | | | 9 | 18.8 | 5 | 25.0 | | | 8 | 18.2 | 6 | 25.0 | | |
| Residence: | | | | | | | | | | | | | | | | | | |
| Rural | 9 | 34.6 | 16 | 38.0 | 0.08 | 0.77 | 15 | 31.2 | 10 | 50.0 | 2.14 | 0.144 | 11 | 25.0 | 14 | 58.3 | 7.42 | 0.006 |
| Urban | 17 | 65.3 | 26 | 61.9 | | | 33 | 68.8 | 10 | 50.0 | | | 33 | 75.0 | 10 | 41.7 | | |
| Pre-intervention KAP of Prisoners (N=324) | | | | | | | | | | | | | | | | | | |
| Age: | | | | | | | | | | | | | | | | | | |
| <40 years | 3 | 50.0 | 215 | 67.6 | 0.83 | 0.39 | 35 | 67.3 | 183 | 67.3 | 0.00 | 0.97 | 11 | 61.1 | 207 | 67.6 | 0.33 | 0.566 |
| ≥40 years | 3 | 50.0 | 103 | 32.4 | | | 17 | 32.7 | 89 | 32.7 | | | 7 | 38.9 | 99 | 32.4 | | |
| Sex: | | | | | | | | | | | | | | | | | | |
| Male | 4 | 66.7 | 242 | 76.1 | 0.29 | 0.63 | 36 | 69.2 | 210 | 77.2 | 1.52 | 0.22 | 12 | 66.7 | 234 | 76.5 | 0.84 | 0.394 |
| Female | 2 | 33.3 | 76 | 23.9 | | | 16 | 30.8 | 62 | 22.8 | | | 7 | 33.3 | 72 | 23.5 | | |
| Education level: | | | | | | | | | | | | | | | | | | |
| Educated | 3 | 50.0 | 104 | 32.7 | 0.89 | 0.40 | 36 | 69.2 | 181 | 66.5 | 0.14 | 0.71 | 3 | 16.7 | 104 | 34.0 | 2.31 | 0.129 |
| Illiterate | 3 | 50.0 | 214 | 67.3 | | | 16 | 30.8 | 91 | 33.5 | | | 15 | 83.3 | 202 | 66.0 | | |
| Imprisonment duration: | | | | | | | | | | | | | | | | | | |
| <10 years | 5 | 83.3 | 266 | 83.6 | 0.00 | 1.0 | 44 | 84.6 | 227 | 83.4 | 0.04 | 0.84 | 15 | 83.3 | 256 | 81.2 | 0.00 | 1.00 |
| ≥10 years | 1 | 16.7 | 52 | 16.4 | | | 8 | 15.3 | 45 | 16.5 | | | 3 | 16.7 | 50 | 15.8 | | |

* : Number of prisoners. χ^2 : Chi square test. $p>0.05$ (not significant). $p<0.05$ (Significant).
 **: Number of security personnel. OR: Odds Ratio. $p<0.001$ (Highly Significant).

Table (4): Association between socio-demographic data and KAP scores of security personnel and prisoners after application of health education program.

| Socio-demographic data | Post-intervention KAP of Prisoners (N=324) | | | | | | | | | | | | | | | |
|--|--|-----------|----------------|-----------|---------|---------|----------|--------|-----------|---------|----------|-----------|----------|----------|---------|--|
| | Knowledge | | | | | | Practice | | | | | | Attitude | | | |
| | Satisfactory | | Unsatisfactory | | P-value | Good | | Poor | | P-value | Positive | | Negative | | P-value | |
| | N (67)* | % (218)** | N (1)* | % (106)** | | N (64)* | % (18)** | N (4)* | % (306)** | | N (68)* | % (256)** | N (68)* | % (68)** | | |
| Age: | | | | | | | | | | | | | | | | |
| <40 years | 143 | 65.6 | 75 | 70.8 | 0.35 | 11 | 61.1 | 207 | 67.6 | 0.56 | 168 | 65.6 | 50 | 73.5 | 0.22 | |
| ≥40 years | 75 | 34.4 | 31 | 29.2 | | 7 | 38.9 | 99 | 32.4 | | 88 | 34.4 | 18 | 26.5 | | |
| Sex: | | | | | | | | | | | | | | | | |
| Male | 162 | 74.3 | 84 | 79.2 | 0.33 | 11 | 66.7 | 234 | 76.5 | 0.39 | 194 | 75.8 | 52 | 76.5 | 0.91 | |
| Female | 56 | 25.7 | 22 | 20.8 | | 7 | 33.3 | 72 | 23.5 | | 62 | 24.2 | 16 | 23.5 | | |
| Education level: | | | | | | | | | | | | | | | | |
| Educated | 78 | 35.8 | 29 | 27.4 | 0.13 | 3 | 16.7 | 104 | 34.0 | 0.12 | 88 | 34.4 | 19 | 27.9 | 0.32 | |
| Illiterate | 140 | 64.2 | 77 | 72.6 | | 15 | 83.3 | 202 | 66.0 | | 168 | 65.6 | 49 | 72.1 | | |
| Imprisonment duration: | | | | | | | | | | | | | | | | |
| <10 years | 178 | 81.6 | 93 | 87.7 | 0.16 | 15 | 83.3 | 256 | 81.2 | 0.1 | 211 | 82.4 | 60 | 88.2 | 0.43 | |
| ≥10 years | 40 | 18.3 | 13 | 12.2 | | 3 | 16.7 | 50 | 15.8 | | 45 | 17.5 | 8 | 11.7 | | |
| Post-intervention KAP of security personnel (N=68) | | | | | | | | | | | | | | | | |
| Age: | | | | | | | | | | | | | | | | |
| <40 years | 42 | 62.7 | - | - | 0.38 | 39 | 60.9 | 3 | 75.0 | 1.00 | | | | | | |
| ≥40 years | 25 | 37.3 | 1 | 100 | | 25 | 39.1 | 1 | 25.0 | | | | | | | |
| Sex: | | | | | | | | | | | | | | | | |
| Male | 54 | 80.6 | - | - | 0.21 | 51 | 79.7 | 3 | 75.0 | 1.00 | | | | | | |
| Female | 13 | 19.4 | 1 | 100 | | 13 | 20.3 | 1 | 25.0 | | | | | | | |
| Residence: | | | | | | | | | | | | | | | | |
| Rural | 24 | 35.8 | 1 | 100 | 0.37 | 25 | 39.1 | - | - | 0.29 | | | | | | |
| Urban | 43 | 64.2 | | | | 39 | 60.9 | 4 | 100 | | | | | | | |

* : Number of prisoners. χ^2 : Chi square test. $p>0.05$ (not significant). $p<0.05$ (Significant).
 **: Number of security personnel. OR: Odds Ratio. $p<0.001$ (Highly Significant).

Table (5): Comparison between HBV and or HCV positive and negative studied groups regarding preimplementation knowledge, attitude and practice.

| KAP | Security personnel (N=68) | | | | χ ² | p-value | The studied prisoners (N=324) | | | | χ ² | p-value |
|-------------------|---------------------------|------|--------------------|------|----------------|---------|-------------------------------|------|--------------------|------|----------------|---------|
| | Hepatitis positive | | Hepatitis negative | | | | Hepatitis positive | | Hepatitis negative | | | |
| | N (9) | % | N (59) | % | | | N (85) | % | N (239) | % | | |
| <i>Knowledge:</i> | | | | | | | | | | | | |
| Satisfactory | 4 | 44.4 | 22 | 37.3 | 0.17* | 0.72 | 6 | 7.1 | 239 | 100 | 17.19* | 0.001 |
| Unsatisfactory | 5 | 55.6 | 37 | 62.7 | | | 79 | 92.9 | | | | |
| <i>Attitude:</i> | | | | | | | | | | | | |
| Positive | 5 | 55.6 | 43 | 72.9 | 1.13* | 0.43 | 15 | 17.6 | 37 | 15.5 | 0.22 | 0.64 |
| Negative | 4 | 44.4 | 16 | 27.1 | | | 70 | 82.4 | 202 | 84.5 | | |
| <i>Practice:</i> | | | | | | | | | | | | |
| Good | 4 | 44.4 | 40 | 67.8 | 1.87* | 0.26 | 2 | 2.4 | 16 | 6.7 | 2.25* | 0.173 |
| Poor | 5 | 55.6 | 19 | 32.2 | | | 83 | 97.6 | 223 | 93.3 | | |

χ²: Chi square test. *: Fisher's Exact test. p<0.05 (Significant).
 OR: Odds Ratio. p>0.05 (not significant). p<0.001 (Highly Significant).

Discussion

The current study examined KAP of HBV and HCV infection among security personnel and prisoners in Shebin El-Kom Public Prison (Menoufia Governorate, Egypt) before and after educational intervention. Owing to the information campaign, health education in community, and the public's increasing contact in daily life with people infected with HCV & HBV, people would become more knowledgeable about HCV and HBV [17]. This study reported that the main source of information about HBV & HCV was mass media in the form of TV (44.5%) followed by health services (24.8%), then from others who included family members, relatives, work mates, neighbors, friends (24.2%). This was in agreement with what reported by several investigators [18-20]. We are reporting low pre-intervention knowledge levels among both security personnel and the studied prisoners (38.2%, 1.9% respectively). Common methods of HBV & HCV transmission, clinical picture and preventive and control measures acknowledged by the studied security personnel and prisoners before educational intervention were limited (39.7%, 29.4%, 39.7% and 3.7%, 4%, 3.7% respectively). These results were in accordance with Al-Thaqafy et al., [21] who reported that only 35.2% of Saudi National Guard personnel had some knowledge of HBV. Those who correctly identified the infectious nature of HBV increased were 33.3%. This finding also were in consistent with Lambert and Paoline [22] who found that only 8% of informants felt officers were adequately informed about dealing with prisoners with infectious disease. Also these results were comparable to those reported in several study conducted on other Egyptian population sectors [23-26]. However these results were lower than

those reported in by Badr et al., [27] who found that 55.2% of the secondary school students in one educational sector in Alexandria had fair levels of knowledge (50-75%) about HBV. In the current work, there was no significant difference between males and females participants regarding their total knowledge score about hepatitis B and C. Similar to this study, gender was not found to be a significant risk factor for knowledge of hepatitis in studies carried out in Egypt and the United States [28,29]. However on the contrary to this, Batholomew [30] found that there was a significant difference between female and male students in both rural and urban settings concerning their knowledge about types of HBV and the different modes of transmission. In this study, there was no significant difference between age of the studied groups, his/her level of education, and residence and their total knowledge score about hepatitis B and C. On the contrary to this, Cheung et al., [31] in Colombia showed that higher HBV knowledge was significantly associated with increasing age (p<0.001) and higher education (p<0.001). In the current work, there was significant difference between practice of security personnel and their residence as those living in urban areas had better practice than living in rural areas. This explained by being most of security personals living in urban areas were policemen and doctors with high level of education and socioeconomic level while the majority of those living in rural areas were soldiers and jailers with lower level of education (mostly primary).

The study results showed marked improvement of overall KAP scores after educational intervention. This result agreed with the results of Al-Thaqafy et al., [21] who showed marked improve-

ment of overall KAP scores and their components' scores regarding hepatitis B viral infection after educational intervention. This improvement was irrespective to their socio-demographic data. Similarly, a marked improvement (from 24% to 84%) in knowledge of hepatitis C transmission was observed in secondary school students in France after an educational slide show [32]. Additionally Ingrand et al., [33] agreed with these results who found that knowledge about the transmission and availability of vaccine significantly improved when measured two months after an information session, suggesting that subsequent at-risk behaviors might be reduced. However, against these results, Cook and Bellis [34] reported that increases in knowledge do not always lead to improvement in behavior. In the current work, there were no significant differences in knowledge, attitude and practice before health education program among HBV and HCV positive and negative security personals. However, HBV & HCV infected prisoners ($p < 0.001$) were significantly more knowledgeable about these viruses before educational intervention. ($p < 0.001$). This difference could be explained that infected prisoners visit doctors frequently, having more health awareness and being alert to any information about his disease.

Conclusions:

Based on the findings of the present study, we can conclude that, there were low levels of HBV & HCV awareness among the studied security personnel and prisoners in Shebin El-Kom Public Prison (Menoufia Governorate, Egypt) before educational intervention. However there was significant improvement in all KAP scores level among security personnel and there was significant improvement in knowledge and attitude of prisoners without improvement in their practice score after application of health education program. Also, this study explored the potential role of mass media especially television as a good tool for conveying the proposed health education message. This indicated that health education in its different forms and formal education is the important cornerstone in building up health awareness in our community.

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فاعلية البرنامج التثقيفي وتأثيره على معارف وإتجاهات وممارسات السجناء والضباط والعسكر العاملين بسجن محافظة المنوفية بجمهورية مصر العربية

تعتبر السجون مرافق عرضة لخطر الإصابة بالأمراض المعدية. وقد أظهرت التحقيقات التي أجريت في السجون في جميع أنحاء العالم إرتفاع معدل إنتشار فيروسات إلتهاب الكبد التي تنتقل عن طريق الدم. وهناك بعض الدراسات حول المعرفة بين السجناء وموظفي الأمن حول فيروس نقص المناعة المكتسب وفيروس الإلتهاب الكبدي بالمقارنة مع مجموعات سكانية أخرى والتي أشارت إلى أن نقص المعرفة حول المرض هو أحد العوائق الرئيسية أمام إدراك الأعراض والتشخيص المبكر والإلتزام بالعلاج والوقاية المبكرة من المضاعفات الناتجة عن المرض.

حيث تهدف تلك الدراسة إلى تقدير مستوى المعرفة والإتجاهات والممارسات المتعلقة بالعدوى بفيروس الإلتهاب الكبدي سى وباء قبل وبعد إجراء برنامج تثقيفي وتعليمي بين أفراد الأمن والسجناء حيث تم إستخدام إستبيان ذاتي الدرجات لتقييم المعارف والإتجاهات والممارسات (KAP) للوقاية من عدوى الإلتهاب الكبدي الفيروسي سى، باء (HCV & HBV) لنحو ٣٢٤ سجين و٦٨ من أفراد الأمن قبل وبعد البرنامج التفاعلي التريوي وبعد تحليل البيانات أظهرت النتائج أن وسائل الإعلام هي المصدر الرئيسي للمعلومات (٤٤.٥٪). فيما يتعلق بالمعرفة والإتجاهات حول العدوى بفيروس الإلتهاب الكبدي الوبائي سى وباء وقد حدث تحسن كبير بين أفراد الأمن والسجناء. فيما يتعلق بممارسات نحو عدوى الإلتهاب الكبدي الفيروسي سى وباء، ولم يكن هناك أى تحسن في ممارسة السجناء، بينما كان هناك تحسن في ممارسة أفراد الأمن نحو الوقاية من فيروس الإلتهاب الكبدي الفيروسي سى وباء بعد البرنامج التثقيفي حيث كانت درجات المعرفة والإتجاهات من أفراد الأمن واضحة بغض النظر عن الخصائص الإجتماعية والديموغرافية والتاريخ المرضي للإصابة بالإلتهاب الكبدي الفيروسي سى وباء حيث كانت ممارسات أفراد الأمن المقيمين بالحضر أفضل من هؤلاء المقيمين بالريف قبل إجراء البرنامج التثقيفي وكانت درجات KAP الشاملة بين السجناء واضحة بغض النظر عن الخصائص الإجتماعية والديموغرافية. حيث كان السجناء المصابين بفيروس الإلتهاب الكبدي الوبائي سى أكثر دراية بشكل واضح حول هذه الفيروسات قبل إجراء البرنامج التثقيفي. حيث إستنتجنا أننا نبلغ مستوى غير كاف من الوعي المعلوماتي بفيروس الإلتهاب الكبدي الوبائي سى وباء بين كافة الأفراد المشمولين في هذه الدراسة وتؤكد هذه الدراسة على ضرورة إستمرار برامج التثقيف الصحي الدوري وبرامج التوعية، والفحص الدوري المستمر للأمراض المعدية، وكذلك العلاج المبكر لهذه الأمراض وتعزيز الظروف المعيشية المختلفة في السجون للوقاية من فيروسات الإلتهاب الكبدي وكذلك الأمراض المعدية الأخرى.