



VIRAL HEPATITIS

PUBLISHED BY THE VIRAL HEPATITIS PREVENTION BOARD

August 2000

Volume 8 - Number 2

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This edition of *Viral Hepatitis* is prepared from material presented at the Viral Hepatitis Prevention Board meeting held 16-17 September 1999 in Venice, Italy.

EDITORIAL

Mobile populations present unique healthcare concerns for society

Although travel and immigration are not new phenomena, circumstances today combine to make this a unique period in the history of population mobility. Not only are increasing numbers of people on the move, but the demography of these mobile populations is changing, becoming ever more heterogeneous.

People move for a variety of reasons: for travel, study or work abroad, or to immigrate because of family ties, marriage or adoption. Migration may be for a short or long duration; it may be voluntary or forced. Forced movement is often brought on by natural disasters, political unrest, economic or population pressures, or human trafficking. Each of these migrant populations has unique healthcare concerns, and there is no one healthcare solution that fits all.

In Europe in particular, many countries are facing new situations, having only in the last decades begun receiving migrants on a mass scale. These changes place new burdens on healthcare systems and call for specific structures to provide adequate healthcare to migrant populations for the protection of individuals and society.

This issue of *Viral Hepatitis* looks at the unique healthcare issues brought to the fore by mass migration. The nature of current migration patterns is discussed and definitions are put forward to help clarify who the different migrants and mobile populations are. We also cover specific measures for controlling viral hepatitis among migrant populations and look at practical programmes and studies in progress. We conclude with recommendations for the control of viral hepatitis in different mobile populations.

The nature of migration is dynamic and complex. Policies aimed at controlling viral hepatitis, or any communicable disease, in these populations need to take this complexity into account and be adapted accordingly as the nature of migration continues to evolve.

Peter Grob
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On behalf of the VHPB

Report on the VHPB meeting in Venice, Italy, 16-17 September 1999.

Population movement: magnitude and nature of the problems involved

In recent years, the pressure of migration has been increasing. Mass migration, both forced and voluntary, has become a massive phenomenon involving hundreds of millions of people each year. This movement has an impact on public health world-wide.

It is estimated that between two and four million people migrate permanently per year. World-wide, the flow of people is generally from developing to developed countries, from east to west, from south to north, and from regions of high to low HBV endemicity. Metropolitan areas are the main recipients of migrants in all countries.

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Not only is the number of people on the move increasing, but the nature of migration is also changing. Historically, immigration has been to a number of traditional recipient countries such as the United States, Canada and Australia. Now, however, Europe has become a common destination for many migrants. In addition, migrants today do not usually benefit from the same open door policy that characterized immigration 50 years ago.

A heterogeneous population

Migrants are a heterogeneous population in terms of various characteristics including history, economic background, education, and legal and medical status. They reflect different cultural and social backgrounds, walks of life, knowledge and skills. Mobile populations include immigrants, migrant workers, students, refugees, asylum seekers and illegals, among others.

A complex process

Migration is a highly complex process that affects individuals, families and communities. It can be precipitated by a number of factors and can usually be classified under one of four categories:

- forced migration, where the decision to move is mostly involuntary and provides little opportunity for preparation;
- migration induced by land and economic pressures and the perceived need to improve the quality of life;
- migration that is officially condoned and relatively well registered;
- migration that is unofficial and for which there is few data and even fewer prescriptions.

To understand the implications of these patterns of movement on health and especially with regard to viral hepatitis, it is necessary to put the act of migrating into context.

Uprooting, movement, resettling

Migration involves at least three sequential steps: uprooting, movement and resettling. Uprooting is a fundamentally destabilizing process that can be of variable duration and usually offers little health protection or psychosocial stability. The success of resettlement depends to a large extent on the local and national economy, and the policies and attitudes of the recipient country.

Nature of migration contributes to poor health of migrants

The impact of migration is often underestimated. Uprooting, movement and resettlement are associated with feelings of isolation and loneliness, and suicidal tendencies are high among migrants and their children. Migrants in adverse situations often develop negative coping skills such as alcohol and substance abuse.

Other health problems associated with migration are well documented, such as increased rates of occupational accidents, as well as domestic and road accidents. In terms of communicable diseases, tuberculosis is perhaps the best known of the transportable diseases of poverty. In France and Belgium, for instance, tuberculosis is six times more common among immigrants than among the local population; in Switzerland it is estimated to be at least four times higher among arriving migrants.

Skewed demographics among migrant populations

Migration, with the exception of family reunification programmes, has become a highly sex and age selective process. Labour demand patterns increasingly call for sex and age specific supply patterns that create demographic skews. The resulting social structures in turn prompt particular patterns of behaviour, specifically sexual behaviour.

In the case of labour migrants, the global profiles tend to be more uniform and it is essentially the poor who are moving in search of work. They are usually in low paid occupations and housing is often sub-standard. In addition, people moving from backgrounds of poverty are likely to carry with them the health characteristics and behaviours of those backgrounds.

Documented and undocumented migrants

The legal status of the migrant worker has tremendous impact on his or her access to healthcare, housing and other services. Regular migrants are those who are officially recognized and have legal documentation. Their reasons for moving are well understood, and include family ties, marriage or employment. These people have access to healthcare services and as a rule are not a great health concern.

Refugees who have been resettled under government programmes are also usually given access to healthcare. Typically, these people immigrate to the traditional recipient countries; in 1997, almost 90% of official refugees were received by Australia, Canada, New Zealand, the countries of Scandinavia and the United States.

Europe, however, is the primary destination for most spontaneous or undocumented refugees. Undocumented migrants would include illegal workers, many refugees and asylum seekers, and people who are victims of trafficking. These people face overwhelming poverty, limited access to healthcare, and limited sympathy and acceptance from the host population.

In Europe, differences in demographic patterns of migrants are apparent: in Italy, for instance, a high percentage of migrants are undocumented and come from other areas in the Mediterranean or from the Magreb; in the UK, on the other hand, most migrants are documented and have family members living in the United Kingdom. Historical and past colonial relationships also play a role in the nature of migration to a country and the mixture of foreign residents in that country.

Conclusions

For the most part, migration is highly unstructured. Relatively few of the migrants moving around the world today benefit from national or international standards of health planning. Fully accessing this population is impossible. However, understanding their situation is critical to providing the services needed. There is also a need to quantify this population in order to understand the magnitude of the problem presented.

Based on presentations by Dr Manuel Carballo, International Centre for Migration and Health,¹ Geneva, Switzerland and Dr Brian Gushulak, International Organization of Migration,² Geneva, Switzerland.

1. The International Centre for Migration and Health (ICMH) is a research, policy and training centre. It supports countries, international agencies and NGOs by generating, compiling and analyzing data relevant to the formulation of policies and programmes on all types of migration. It also organizes interdisciplinary training for people working with migrants, including refugees and displaced people, and for migrants themselves.

2. The International Organization of Migration is a humanitarian organization committed to the principle that humane and orderly migration benefits migrants and society. An intergovernmental body, IOM acts with its partners in the international community to: assist in meeting the operational challenges of migration; advance understanding of migration issues; encourage social and economic development through migration; and uphold the human dignity and well-being of migrants.

Clarifying the terminology concerning migration

The terminology used to describe people who migrate to another country, or who are mobile internationally or within their country of origin can be confusing and vague. Often what one person means by a term differs from what another may infer from the same word. To clarify the situation, definitions of mobile populations as used by the International Organization for Migration, a Geneva-based non-governmental organization are listed below. Even with this attempt at classification, many people cannot be categorized according to traditional definitions, falling into the grey areas that characterize migration.

Migrant

A 'migrant worker' is generally understood to be an economic migrant who has been 'engaged in a remunerated activity in a state of which he or she is not a national'. The term also encompasses undocumented migrants, a phenomenon which is growing into a global crisis.

The term 'migrant' should be understood to include cases where the decision to migrate has been taken freely, for 'personal convenience', without any external compelling factors such as ethnic or civil strife or environmental destruction. Migration, on the other hand, is a descriptive term which simply means the movement of people and therefore includes those who have moved by choice, for economic reasons, as well as the movement of refugees and displaced persons.

Refugee

The definition of a refugee taken from the 1951 UN Convention Relating to the Status of Refugees and the Protocol of 1967 is a person who is outside his or her country of nationality 'owing to well-founded fear of persecution for reasons of race, religion, nationality, membership of a particular social group or political opinion'. This definition is limiting in that it only includes people who are facing individual persecution. This definition excludes the millions of people who have fled their countries because of internal strife, poverty, or natural or man-made disasters, although the United Nations High Commissioner for Refugees (UNHCR) has widened its scope to offer protection to displaced persons who fall outside the traditional definition of refugee.

Displaced persons

Displaced persons are those who have not been individually exposed to persecution but who have suffered as a result of generalized violence, armed conflict situations or other man-made disasters.

Internally displaced persons

Internally displaced persons are those who are internally displaced in various regions, usually because of war; those whose nationality is undetermined; or those who do not have an established bond with any country after a political re-organization. The numbers of internally displaced persons is increasing at an alarming rate.

Asylum seekers

These are persons whose application for asylum is pending in the asylum procedure or who are otherwise registered as asylum seekers.

Returnees

Returnees are refugees or internally displaced persons who have returned to their place of origin.

Others

The Constitution of the IOM includes the broad topic of 'other individuals in need of migration services'. These would include asylum seekers, expellees and deportees, nationals stranded abroad, and any other person involved in migration who does not fall into one of the above categories.

Based on a presentation by Dr Brian Gushulak, International Organization of Migration, Geneva.

Reference:

Extract of a Background Paper presented by the International Organization for Migration (IOM) at the Regional Consultation Group on Migration: Seminar on Human Rights and Migrants, Washington, DC, April 23-24, 1998.

Hepatitis B and international adoption

International adoption has become increasingly common in recent years as a solution to infertility and as a result of the decline in children offered for adoption in the United States and Europe. It is a phenomenon that is relatively recent, having only really started after WWII. Statistics show that the trend towards international adoption is on the rise: in the United States, for instance, there were 4,864 international adoptions in 1979; by 1998, that number had increased to 16,000.

Many children adopted from overseas come from areas where hepatitis B infection is common. In 1998, statistics from the US show that two-thirds of children adopted internationally came from China or countries of the former Soviet Union. The care environment where these children live prior to adoption is also changing, and today 88% of children awaiting adoption are living in institutions rather than with foster families. Institutional care increases a child's risk of exposure to communicable diseases.

While the risk that the adopted child will be a hepatitis B carrier varies from country to country, families considering inter-country adoption should be made aware of the risks that the child could be a carrier and should be immunized before the adopted child is brought to his or her new home. The adopted child should also be tested for hepatitis B upon arrival in his or her new country.

Transmission of hepatitis B

Children infected with hepatitis B (HB) early in life have a greater chance than adults of developing chronic infection and of becoming HBV carriers for life. Those infected as new-borns are at the highest risk of becoming carriers and of subsequently developing long-term diseases such as liver cancer or liver cirrhosis. Chronically infected individuals can transmit the virus to others.

Hepatitis B virus can be transmitted from mother to child at birth, through exposure to infected blood or blood products, through unhygienic needle injections, through sexual contact with an infected person, and through close contact with an infected person. This latter route of infection occurs mostly between children or household contacts, particularly in areas where the rates of hepatitis B infection are high.

Epidemiology and prevention

The areas where hepatitis B infection is most common include: Southeast Asia, sub-Saharan Africa, the Amazon Basin, parts of the Middle East, the central Asian Republics and some countries of Eastern Europe. In these parts of the world as many as 70-90% of the population may at one time or another have been infected.

Adoptee children come mostly from Eastern Asia, Sub-Saharan Africa, South America and recently from Eastern Europe. In these regions the prevalence of HBsAg ranges from 2% to 15%. Thus, the adopted children have a much higher carrier rate than the general population in adoptive countries, such as in Western Europe or the United States. In addition, most of these young chronic carriers are HBeAg-positive, representing a highly infective source of HBV.¹⁻³

In 1985, there were approximately 8,500 international adoptions in the United States,^{2,4} a phenomenon that had doubled over five years: from 4,864 in 1979 to 8,327 in 1984. In 1985, in the United States 10 countries were the source of 92% of the immigrant orphans. South Korea was the source country of 61% of these adoptees. In Scandinavian countries most adoptees come from India, Korea and Central Africa.¹ In recent years, there has been an increasing number of adoptee children from Eastern Europe. Over 2,000 Romanian children were adopted by US citizens in 1991.⁵

Several studies investigating the prevalence of HBsAg in foreign adoptees confirm a high HBsAg carrier rate, which ranges from 2.8 to 6.8 %.^{1-3,6-9} One study suggested a prevalence of 31% among Indian adoptees.⁹ Romanian orphans presenting for adoption show an even higher carrier rate of 35%.¹⁰

These figures for hepatitis B infection are alarming within the scope of international adoption. Four studies that specifically addressed the issue of Asian adoptees indicate that these children increase the risk of their adoptive families acquiring HBV infection.^{1,3,11,12}

Studies of HB prevalence rates among international adoptees

Author	Reference	Country of adoptee child	Number studied	HBsAg prevalence (%)	HBeAg positivity (%)
Greenblatt	8	Korea	140	4.3	100
Lange	4	Korea	360	2.8	No data
Murray	9	Korea	2300	3.3	No data
Jenista	10	Korea	64	6.25	No data
Hostetter	11	India	16	31	No data
Nordenfeldt	3	India, Korea	400	5	> 90
Friede	5	Korea, India	511	6.8	76
		Korea	433	7	82
		India	78	5	33
Rudin	12	Romania	169	35	No data
Jonckheer	13	India, Rwanda	148	6.8	No data

Testing

Testing is imperative. It is essential that all children from abroad be tested for hepatitis B as soon as they arrive in their new country and that all family members be immunized for hepatitis B before the arrival of the adopted child.

Just because a child appears healthy is no indication that he or she is not infected with hepatitis B virus. Tests should be carried out in the adoptive family's country because many countries do not have access to the most sensitive and accurate tests available. Tests for hepatitis B include:

- Hepatitis B surface antigen (HBsAg)
- Hepatitis B e antigen (HBeAg) (to be performed in case of HBsAg positivity)
- Hepatitis B surface antibody (anti-HBs)
- Hepatitis B core antibody (anti-HBc)

If the child tests positive for HBsAg that child is infected with the hepatitis B virus. A positive result for an anti-HBs test may mean that the child has either had hepatitis B in the past or has been vaccinated. If the anti-HBc and anti-HBs tests are positive, the child has been exposed to hepatitis B virus but is not a carrier of the virus. If the anti-HBc and HBsAg tests are positive, the child could be a carrier of the virus and tests should be repeated after six months.

The impact of a diagnosis of hepatitis B should not be underestimated; counselling services to the family and child need to be an integral part of any treatment offered. Patients are presented with an illness that can run the course of a lifetime. Families should be made aware of the possibilities

of transmission. Once the child reaches adolescence he or she should be advised about the risk of sexually transmitting the hepatitis B virus.

Vaccination for hepatitis B infection is essential for families considering inter-country adoption. Although the risk that the adopted child will be infected with hepatitis B infection varies depending on his country of origin, there is no possibility of transmission to other members of the household if every family member has been immunized before the adopted child arrives in his new country.

Based on a presentation by Prof Pierre Van Damme, University of Antwerp, Belgium.

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Further reading:

The Viral Hepatitis Prevention Board Fact Sheet 5 covers international adoption and is an information sheet for parents. Fact Sheet 5 is available from the VHPB Secretariat or can be downloaded from the VHPB website at www.vhpb.org.

Epidemiology and prevention of hepatitis B in migrants and sex workers

When looking at hepatitis B prevention programmes among mobile populations, one group that prevention programmes must target is sex workers. Sex workers are a very dynamic population, frequently changing workplaces, either systematically or because of changes in the local policies concerning sex workers. Any prevention programmes need to take into account the epidemiology and characteristics of the migrant sex worker population.

Researchers at the University of Ghent, Belgium reviewed the published literature concerning hepatitis B and migrant sex workers in Europe. HBV incidence data on migrant sex workers is scarce so only prevalence data was considered. Two types of prevalence data were reviewed: HBV prevalence data on sex workers in their home countries and HBV prevalence data on sex workers working in Western Europe. The time period looked at was 1990-1999. With regard to the prevalence of infection among sex workers, the researchers noted whether the infection was acquired in the home country or the host country.

HBV and migrant sex workers in Europe

Migrant sex workers in Europe are most likely to come from one of five regions, each with its own epidemiology, and cultural and social characteristics. Most often migrant sex workers in Europe are from Africa, Asia (predominantly Thailand and the Philippines), Eastern Europe, Latin America or from neighbouring countries. Those from neighbouring countries generally cross just one border, either to escape their own judicial system or for anonymity.

Africa

Although Africa is considered to be an area of high endemicity, no data on HBV prevalence among sex workers in Africa from the last 10 years was found. Most studies discussed the spread of HIV. This can be explained by the background of high prevalence of HBV in the general population.

Asia

Southeast Asia is an area of high endemicity. Virtually no direct studies on sex workers are available. As is the case with Africa, this can be explained by the high background prevalence. Transmission is predominantly vertical, from mother to child, or horizontal, from child to child. Carrier rates among sex workers are the same or slightly higher than in the general population.¹

Eastern Europe

Eastern Europe is an area of intermediate endemicity, with HBsAg-positive rates ranging from 2-7%. A study conducted in Latvia in 1997 found that 11.6% of female sex workers were HBsAg positive.²

Latin America

Both intermediate and high endemic areas can be found in Latin America. In high endemic areas the prevalence of HBV markers is 70-90%; in intermediate areas a prevalence of 20-55% is described.³

The studies showed that socio-economic status and birthplace were important determinants for the distribution

of markers in otherwise similar populations. A 1994 study of the overall prevalence of HBV markers among sex workers in Brazil found that 39% of the population had HBV markers. Of those with a high socio-economic status, 26% showed markers of infection, while 52% of those with a low social-economic status had markers of infection.⁴ In a study in Sao Paulo, Brazil in 1997 among female sex worker, 43.6% were HBV positive.⁵ The range of prevalence for HBV markers in the general population is lower in rural areas than in urban areas.⁶

Studies from Europe, US, Australia

Studies of HBV markers in sex workers in Europe, the US and Australia that included information on nationality found that the prevalence of HBV is higher among migrant sex workers than it is among local sex workers. A 1991 study in Sydney, Australia found the prevalence of HBV among local female sex workers to be 14.1%, while among international female sex workers the prevalence was 58.4%.⁷

In Vienna, Austria, the prevalence of HBV markers in 1993 was 19% for registered sex workers and 44% for illegal sex workers. IV drug use, African origin and irregular condom use were the most important risk factors.⁸

Recent data from a free HB vaccination programme for sex workers in the Netherlands carried out in 1999 show prevalence of anti-HBc to be 5/64 (7.8%) among Dutch sex workers, 5/7 (71.4%) among Asian sex workers, and 2/7 (28.6%) among Latin American sex workers.⁹ No HBs-Ag was found.

In Brussels, Belgium, 411 sex workers were tested for anti-HBc from September 1995 to July 1999. The number testing positive was: 24/220 (10.9%) for Belgian sex workers; 22/71 (31.0%) for west European sex workers; 4/15 (26.7%) for east European sex workers; 27/54 (50%) for sub-Saharan African sex workers; 3/9 (33.3%) for North African sex workers; and 6/28 (21.4%) for Latin American sex workers.¹⁰ Data from Ghent, Belgium confirm the higher prevalence of HBV markers in migrant sex workers.¹¹

A study conducted in Copenhagen examined the seminal fluid taken from the condoms of male clients of sex workers, checking for STIs. Of the 332 samples, 9.8% showed HBV markers, Chlamydia was found in 4.9%, and no HIV was found. These results support HBV vaccination programmes for HBV antibody negative sex workers, and show the likelihood of the client being the source of the STI.¹²

Size of the migrant sex worker population in Europe

Validated information on the composition of the sex worker population in Europe is not easy to obtain. The proportion of migrant sex workers in Europe is related to the form of prostitution (e.g. more migrant sex workers in street prostitution than in private houses), to the region (more in urban areas than in small towns), and to the country (from 80% in Italy to 10% in Ireland).¹³

Country of origin of sex workers in the Netherlands

Country/continent	Women	Men	Trans-gender	Total
The Netherlands	6,054	265	1	6,320 (32.1%)
Other EU countries	1,112	125	10	1,247 (6.3%)
Central/Eastern Europe	3,277	375	35	687 (3.5%)
Asia	635	-	45	680 (3.5%)
Latin America/Caribbean	3,208	160	912	4,280 (21.7%)
North Africa	899	50	-	949 (4.8%)
Sub-Saharan Africa	2,480	25	-	2,505 (12.7%)
Unknown	-	15	-	15 (0.1%)
Total	17,665	1,015	1,003	19,683

Results of a recent survey on the country of origin of sex workers in the Netherlands are listed above.¹⁴ It should be noted that the numbers indicated are low and that the real number of sex workers in the Netherlands is estimated to be 25,000.

Conclusions

A number of clear trends emerged from the review of this data.

- The prevalence of HBV markers in migrant sex workers is a reflection of the prevalence in the home country, particularly among those who were not involved in sex work in their home country and among those who are victims of trafficking or forced prostitution.
- Private sexual relations do not often cross cultural barriers, providing support to the theory that HBV epidemiology of migrant sex workers mirrors the epidemiology in the home country.
- The likelihood of a migrant sex worker becoming infected by a client in a low endemic country is low. In several studies the risk of acquiring a sexually transmitted disease in sex work is attributed to sex contacts in private life.
- Migrant sex workers with a negative HBV serology should be vaccinated, as should local sex workers, to protect them from acquiring infection in professional or private life.
- The relatively high prevalence of HBsAg carriers among migrant sex workers and low prevalence among clients in low endemic countries calls for optimal safe sex conditions.⁷ As such, campaigns promoting safe sex should be aimed at both clients and sex workers.

Based on a presentation by Dr Ruud Mak, University of Ghent, Belgium.

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Further reading:

More information may be obtained from the EUROPAP-TAMPEP 1999 Programme at europap@ic.ac.uk.

Coping with the health problems of refugees

The physical and mental problems of refugees are challenging. Nearly all refugees have a higher incidence of tuberculosis, chronic hepatitis B infection, intestinal parasites, nutritional deficiencies and depression - although there are marked differences among the various countries of origin.

The number of refugees is another challenge unlikely to subside. At the end of 1997, there were an estimated 12 million refugees and an additional six million internally displaced persons.

Health problems of refugees

A review of published research explains some of the health problems of refugees from different countries who immigrate to the United States.

Numerous studies on the health problems of Southeast Asian refugees are available. Infection with hepatitis B is hyperendemic in Southeast Asia and a high percentage of refugees (14%) have been shown to be HBsAg-positive. Malnutrition and vitamin deficiencies are common. Post-traumatic stress disorder and depression have also been noted among as many as 70% of Southeast Asian refugees.

Among Vietnamese immigrants to the US, attention to tobacco and alcohol abuse, healthy diets, cancer screening and hepatitis B prevention is virtually unknown. Cervical cancer is a leading cause of death in young Vietnamese women.

The largest group of refugees from the former Soviet Union arrived in the United States between 1992 and 1994. The geographic prevalence pattern for hepatitis B in the former Soviet Union is intermediate, and the data on refugees from the region is reflective of this. Hepatitis A is widespread and poor public hygiene has led to outbreaks of hepatitis E. Pockets of typhoid, brucellosis, anthrax and malaria exist. Tuberculosis is also endemic. Heavy alcohol and tobacco use is common.

Before 1992, immunization rates were high, but since that time vaccines have been inconsistently available in the countries of the former Soviet Union so that seronegativity to measles, mumps and rubella is common among those under 30. High rates of thyroid cancer and leukemia have been noted in immigrants from the areas most affected by the Chernobyl nuclear power plant disaster.

Refugees from the former Yugoslavia have been shown to suffer from malnutrition, tuberculosis, dental problems, quadriplegia and emotional trauma. Vaccine production of routine childhood vaccines has been interrupted and the in-country rate of immunization is falling. Increased blood donations and a shortage of screening reagents have led to higher transmission rates of hepatitis B. Heavy tobacco use is also common.

Large numbers of refugees from the East African countries of Somalia, Sudan and Ethiopia have immigrated to the United States. By far the greatest health problem is malnutrition. Other health problems of refugees from these

three countries include intestinal parasites, dental caries, anaemia, schistosomiasis, syphilis, and tuberculosis. Reported prevalence of infection with hepatitis B virus is 68%. Hepatitis A immunity is nearly 100%.

Immigrants from Iraq and Afghanistan show high rates of malnutrition, intestinal parasites, hepatitis B and tuberculosis. Psychiatric problems and stress disorders are also common.

The greatest health burden among Haitian refugees is AIDS, the leading cause of death in sexually active adults. The other main health problems are malaria, respiratory infection, tuberculosis, measles, pneumonia, varicella, cellulitis and syphilis.

This section is adapted from a previously published article: Ackerman, LK. Health Problems of Refugees. JABFP 1997 Sept-Oct; Vol 10 No 5: 337-348.

Prevention programmes

Medical screening for travel is one of the oldest public health measures in effect and is based on the desire to limit the introduction of contagious diseases into a country. Health systems in place today to deal with the health problems of refugees are often based on the principles of screening, although their effect in limiting the spread of infections internationally is questionable. A major gap noted in most programmes is the lack of follow-up, a part of the process which is costly but relevant in today's world.

Screening programmes reflect national concerns and vary by country, although the focus of screening programmes has generally been on sexually transmitted infections (STI), tuberculosis, HIV, rare diseases, high-cost diseases, and those that would require long-term public care, such as psychiatric or substance abuse problems.

A review of existing legislation in the traditional receiving countries shows that current practices for the control of hepatitis B vary. In Australia, certain migrants are tested pre-arrival for HBsAg. These include adopted children, unaccompanied minor refugee children, pregnant women, and people considered at increased risk by the examining physician. In the US, pre-arrival immunization with age-appropriate vaccines for immigrants is required. This would include hepatitis B immunization. Refugees and adopted children are required to have post-arrival immunization. Refugees, unaccompanied minors, and pregnant women arriving from South East Asia are also tested for HBsAg. In Europe, the majority of interventions take place after arrival.

Based on a presentation by Dr Brian Gushulak, International Organization of Migration, Geneva.

Reference:

1. Ackerman, LK. Health Problems of Refugees. JABFP 1997 Sept-Oct; Vol 10 No 5: 337-348.

The Umbrella Network: a programme of prevention

In many regions within Europe, prostitution and drug scenes are developing in areas close to national borders. Extreme differences in income as well as divergent legal systems have both played their part in encouraging this development. There is reason to believe that many people involved in the sex trade are displaying high-risk behaviour in these areas. Furthermore, the regional and national infrastructures which are geared towards a low population density are generally unable to cope with the problems that may arise from this situation.

The Umbrella Network was started in 1996 to implement, support and evaluate prevention projects focusing on HIV/AIDS and sexually transmitted diseases (among them hepatitis B) in the border regions of Europe. The bi-national teams of the Umbrella Network contact those involved in prostitution or drugs in the regions by means of outreach social work. The aims are to provide information; to develop and disseminate prevention materials; and to establish psycho-social and medical consultation services and facilities.

The projects of the Umbrella Network are geared towards analysing the problems arising from the sex trade along the national borders with the European Union and identifying the border areas where the situation is critical. The projects also look at the migratory movements of female sex workers and the underlying causes for these movements. The projects work to establish co-operation between the neighbouring countries and to establish networks that include the local institutions involved in dealing with this problem. Services are aimed at the sex workers and drug users in the regions.

The sex trade that takes place along national borders can be characterised by a number of features. It is usually driven by the differences in economic standards and the attraction of anonymity, both for clients and prostitutes. Furthermore, there is a 'push-pull' effect that takes place when one region is more aggressive in prosecuting criminal activity and a neighbouring region is viewed as more lenient. Other factors which may make prevention programmes more

difficult to implement are the transience of sex workers who change work sites on short notice and the language barriers that are inevitable when prostitutes come from many different countries. A number of factors also increase the likelihood that a sex worker will become infected with HBV or other STIs: a lack of knowledge of the risks involved and of prevention methods; drug dependency; debts and poverty; and pimping and violence. Fear of criminal prosecution and the absence of adequate healthcare and social support are other factors likely to increase the chances of infection among sex workers.

In order to be successful, prevention measures need to focus on providing information, influencing behaviour, exerting influence on the individual's environment and removing the discrimination and criminalisation associated with the sex and drug trades.

The following services should also be part of any prevention programme aimed at sex workers in border regions:

- multilingual education and information
- freely available condoms and lubricants
- an improvement of the sex workers' working environment
- the involvement of sex workers in prevention work.

The Umbrella Network is supported by the Commission of the European Communities, the Federal Ministry of Health of the Federal Republic of Germany and a number of EU countries including Austria, Finland, Greece, Italy, Spain, and Portugal. Albania, Bulgaria, the Czech Republic, Estonia, Poland, Slovenia and Switzerland also take part, and Great Britain and Ireland are planning to join the scheme over the next several years.

Based on a presentation by Prof Wolfgang Heckmann, Fachhochschule Magdeburg, Germany. For more information on The Umbrella Network, contact spi@spi-research.de.

Country reports: prevention and control of viral hepatitis in migrant populations



With a population of 10 million inhabitants, Greece has an estimated 400,000 - 500,000 migrants who come from outside the European Union. Of these, just over 100,000 have legal residence. Approximately one-third of the illegal migrants in the country is from Albania.

Other groups of non-Greek residents include spouses of Greeks, employees of foreign companies and political refugees. Refugees in Greece represent a small minority of the total migrant population and are usually housed in camps provided by the government.

In January 1998, new legislation aimed at legalizing non-EU migrants was passed in Greece. Applications were accepted from illegal migrants already living in Greece. As of April 1999, some 370,778 applications for temporary residency and 225,743 applications for a permanent residency had been filed. By July 1999, temporary residency had been granted to 52,936 applicants and 49,510 applicants had received permanent residency permits.

Initially, legislation required that all migrants and refugees be screened at state hospitals for TB, HIV, HBV, HCV and syphilis. This practice was stopped in August 1998 because the workload and cost burden could not be sustained. Currently, migrants and refugees receive a chest X-ray for TB only.

Viral hepatitis in migrant populations: country presentations

The results of screening of card applicants for viral hepatitis showed that of the 1,751 persons screened, 2.19% were HBsAg positive and 1.24% were anti-HCV positive. Of those screened, 78.6% were men and 23.4% were of Albanian nationality. This figure shows an under-representation of Albanians in the group, as 35% of the migrant population in Greece is Albanian. Of the card applicants who were of Albanian origin, 5.42% tested HBsAg positive.

A review of the published data in Greece showed the following prevalence rates:

Authors	City	Country of origin	Prevalence HBsAg+
Skilros et al.	Athens	Former USSR	14.5% (9/62)
Gregoriadou	Salonica	Former USSR	3.6% (26/728)
Dritsas	Athens	Multiple	10.1%
Makamitsi	Athens	Pregnant Albanians	13.4%
Tsianos	Epirus	Albanians	Males: 21.6% Females: 8.5%
Dalekos	Epirus	Albanians	22.2%
Papefstathiou	Epirus	Hospitalized Albanian Children	37%

Screening for viral hepatitis was conducted among registered prostitutes in Greece. Of those screened, 6% were HBsAg positive; 43% were HBV immune; 1.7% were anti-HCV positive; and 2.2% were anti-HEV. Greece currently has 600 registered prostitutes, although the total number of sex workers in Greece is estimated to be 10,000. Field trials on non-registered sex workers has shown a 22% decrease in prostitutes of Greek origin and a 387% increase in migrant sex workers. The country of origin of migrant sex workers has shifted in recent years in Greece. In the 1980s, the majority were from South Asia; today, 53% of migrant sex workers are from Eastern Europe.

Based on a presentation by Dr Vassiliki Papaevangelou, University of Athens, Greece.

IS ISRAEL

Israel currently has policies of universal immunization for hepatitis A and hepatitis B. The policy of universal hepatitis A immunization for 18-month-olds was implemented in July 1999. Universal hepatitis B immunization of newborns started in 1992; before that time, all healthcare workers received HB immunization and all infants of Ethiopian immigrants were immunized. The Ethiopian population in Israel has HBsAg prevalence rates as high as 19%.

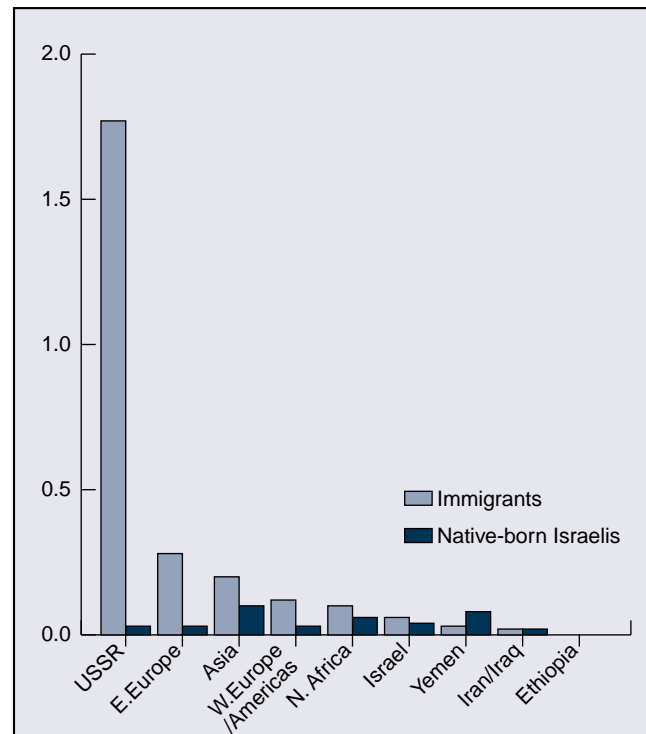
The immigration patterns in Israel are dynamic, particularly when considering immigrants coming from areas that are hyperendemic for hepatitis B: between 1948 and 1979

waves of immigrants came from Asia and Africa; there was a mass migration from Ethiopia in 1985 and 1991; and large groups of people from the Soviet Union immigrated to Israel in the early 1970s and again in the 1990s.

Studies in Israel show that immigrants from areas that have high endemicity for hepatitis B show a higher prevalence of hepatitis B infection than native-born Israelis.

Another study of military inductees immigrating from the countries of the former Soviet Union was carried out. By law, all immigrant males aged 18-49 and females aged 18-24 are inducted into the military. Blood taken from 1,000 inductees from the former Soviet Union between January and March 1997 was tested for HBsAg, anti-HBs and anti-HCV antibodies.

Age-adjusted prevalence of Anti-HCV antibodies by country of birth and paternal country of birth and paternal country of birth in native-born Israelis



Several conclusions were drawn from these studies:

- The prevalence of HBsAg in offspring of immigrants from North Africa and Asia is declining.
- A high prevalence of HBsAg in immigrants from Ethiopia was noted.
- Recent immigrants from the former Soviet Union have a high prevalence of anti-HCV antibodies.

Based on a presentation by Dr Manfred Green, Tel Aviv University, Israel.

I ITALY

In Italy, Apulia, a region in the southern part of the country, has received a large influx of migrants and refugees, mainly coming from Albania. In particular, two massive inflows of migrants arrived from Albania in 1991 and 1997. The war in Kosovo then prompted a wave of immigration of Albanian Kosovars who came to Apulia and were housed in refugee camps in April 1999.

A surveillance system was established within days of their arrival to monitor health problems and to prevent outbreaks of infectious diseases. In addition, seroepidemiological studies were conducted to ascertain the immunization levels against vaccine-preventable diseases and to evaluate the seroprevalence of hepatitis markers.

In the 1991 mass migration from Albania, 23,000 Albanians arrived in Italy over a two-day period. A sample of 393 refugees, including both adults and children, and coming from rural and metropolitan areas, was tested for serological markers of hepatitis. Of those tested, 96% were sero-positive for anti-HAV; 19% were HBsAg positive; the majority of HBsAg carriers were anti-HBe positive; only 1.5% were found to be anti-HCV positive.

In 1997, a socio-economic crisis caused the exodus of thousands of Albanians; 17,600 refugees were housed in reception camps in Apulia. Between March and May 1997, a total of 670 unselected refugees were recruited on a voluntary basis for a viral hepatitis seroprevalence study. For HAV, 91.2% showed positivity for anti-HAV; 3% were anti-HEV positive. The following chart illustrates the findings on HBV, HCV and HDV infection. Furthermore, age-specific rates for HBV markers showed a correlation of exposure with increasing age.

Seroprevalence of HBV, HCV and HDV markers in 670 Albanian refugees, 1997

Hepatitis markers	Number	Percent
Anti-HBc+	416	62.1
HBsAg+	91	13.6
Anti-HBs+	319	47.6
HBeAg+ *	7	7.7
Anti-HCV+	2	0.3
Anti-HDV+ *	1	1.1

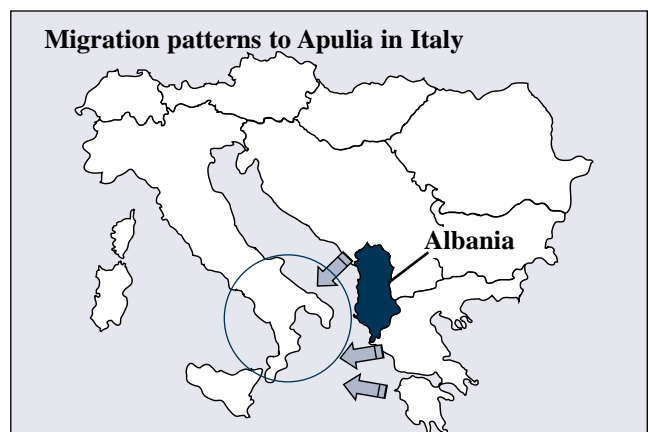
*The prevalence of HBeAg and HDV was evaluated only on HBsAg+ subjects.

The findings of the 1991 and 1997 studies showed hyperendemic rates for hepatitis A. Concerning hepatitis B, the overall prevalence of HBsAg was 13.5%, while the total overall prevalence of anti-HBc, which indicates the burden of HBV infection, was 62.1%. A relevant finding was the presence of HBsAg in 8.1% of children up to 10 years of age. This suggests that in hyperendemic areas, HBV infection is largely acquired in childhood by vertical transmission or horizontal transmission from siblings.

In April 1999, serological tests for viral hepatitis were carried out on 526 Albanian Kosovar refugees. The conclusions drawn from this study were as follows:

- There is a high circulation of HAV in the Kosovar population with prevalence rates similar to those of hyperendemic areas.
- The prevalence of HEV antibodies is low and comparable to that of other European countries.
- HBV infection appears to be at an intermediate level of endemicity, and the prevalence of HBsAg (3%) found was significantly lower than that (13%) found in Albania refugees previously tested for hepatitis markers.
- The risk of HCV spread among Kosovar migrants seems to be very low, based on the study results.

Based on a presentation by Prof Cinzia Germinario, with assistance from Dr Pier Luigi Lopalco and Dr Maria Chironna, University of Bari, Italy.



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S

SWEDEN

Under the Health and Medical Services Act, immediate health and medical care must be offered to a person staying within Sweden, even if that person is a non-resident. This would include asylum seekers and refugees, and foreign nationals who have applied for residence permits or temporary residency in Sweden. The obligation to offer this care falls to county councils. The county councils receive compensation for costs from the state government, in accordance with certain principles.

The services which qualify for compensation include:

- health examinations
- immediate healthcare and dental care which cannot be deferred
- maternity healthcare
- prescribed medicines
- medical care for a person living in a residential centre, even after a permanent resident permit has been granted, if resettlement has not been offered
- permanent care if prescribed by a physician
- transport services

The health examination serves two purposes:

- to identify persons in need of immediate care;
- to identify the need for disease control measures in the community.

As part of the health examination, all asylum seekers and refugees arriving at a primary refugee centre are tested for HIV. If the person is symptomatic or other reasons should warrant it, the person is tested for hepatitis serology, given a STI (sexually transmitted infection) examination, and tested for TB and enteric infections.

At the secondary refugee centre, the refugee will be tested for HBsAg, HIV and parasitic infections, if this has not already been done. Pregnant women are tested for HBsAg, HIV, rubella and syphilis.

The physician in charge of the health examination follows recommendations from the County Medical Officer as to which asylum seekers/refugees, in the context of communicable disease prevention, are to be offered sampling and what that sampling should include. The recommendations are based on information from the National Board of Health, which compiles information on the current disease control situation in the refugee's country of origin, the number of refugees arriving, and other underlying factors.

Asylum seekers and refugees are provided with a general introduction to medical services in Sweden upon arrival to the country. It is the duty of the authority to provide translation services.

Based on a presentation by Prof Lars Magnius, Swedish Institute for Infectious Disease Control, Solna, Sweden.

CH

SWITZERLAND

With a population of just over seven million, Switzerland had 136,053 asylum seekers and refugees in country in 1997; they account for around 2% of the general population almost 10% of the foreign population. Switzerland tops the list of Western countries receiving applications for asylum, with 453 applications per 100,000 inhabitants; 9.5% of applicants are granted asylum and 14% are given provisional admission to the country. Many of the applicants are from regions that have high endemicity for hepatitis B. In 1998, most applications were received from residents of the former Yugoslavia, Albania, Iraq, Sri Lanka, Bosnia and Turkey.

Medical screening is provided to all asylum seekers and refugees arriving in Switzerland. Adults and children are screened for tuberculosis and hepatitis B (anti-HBc). Immunizations against diphtheria, tetanus, polio, hepatitis B (if screening is negative), and MMR are given. In addition, children are checked for parasites and receive Hib vaccination. A hepatitis B study on the screening of asylum seekers conducted in 1992-1993 found that the prevalence of anti-HBc antibodies varied dramatically depending on the person's country of origin. Prevalence rates ranged from a low of 3.1% among asylum seekers coming from Sri Lanka to a high of 65.5% in those from Liberia. In almost all instances prevalence was higher among men than women.

In the case of hepatitis B, asylum seekers and refugees are among the few migrant groups which are covered by hepatitis B prevention programmes. Other migrant groups such as sex workers, dancers, adoptees, students and irregular migrants are not part of prevention programmes.

Some issues surrounding hepatitis B prevention programmes are currently under discussion. In particular, the cost, feasibility and effectiveness of screening programmes versus mass vaccination without screening are issues for consideration. Also, the best way to reach irregular migrants is unclear, with questions such as how to maintain confidentiality and reach illegal immigrants in a cost-effective way compounding the problem.

Based on a presentation by Dr Louis Loutan, Geneva University Hospital, Switzerland.

US

THE UNITED STATES

Migration patterns world-wide show a movement of people from developing to developed countries, from east to west, and from south to north. The demographics of migration have implications for viral hepatitis control programmes, particularly for low endemic countries receiving large numbers of immigrants from areas of high endemicity.

The United States provides a good model when looking at the impact of immigration on the epidemiology of viral hepatitis in a country and on that country's prevention programmes. The US is currently experiencing one of the largest and longest waves of immigration in its history.

The United States has a population of approximately 275 million. In 1996, a more or less typical year, there were 916,000 legal immigrants plus an estimated 275,000 who came illegally. Of these, 65% entered under family reunification programmes, 13% under employment-based preference programmes, and 14% were refugees or asylum seekers. California was the most popular destination, receiving about one third of immigrants; the New York metropolitan area was second, drawing about one in six.

Immigration patterns in the US follow the world-wide trend. The table below shows the country or region of origin of immigrants entering the country legally.

Immigration patterns, United States, 1996

Country or region of origin	Number of immigrants
Asia	270,000
Mexico	164,000
Caribbean	117,000
Eastern Europe	110,000
South America	62,000
Africa	47,000
Central America	44,000
Middle East	38,000
Western Europe	38,000
Canada	16,000
Oceania	5,000

Many of these groups of migrants come from areas of intermediate to high endemicity for hepatitis B and hepatitis C, and would be more likely than the native population to be chronically infected with HBV or HCV, as is illustrated in the following chart.

Estimated number of persons with chronic HBV and HCV

Region	Population (millions)	Chronic infection (millions)	
		HBV	HCV
Africa	749	59	23
Asia	3,600	287	108
Latin America	504	10	15
Europe	729	11	22
Oceania	30	2	1
North America	305	2	9
Total	5,902	371	177

Perinatal transmission

The likelihood of developing chronic hepatitis B infection is inversely related to the age of infection. While infection acquired during infancy and early childhood is usually asymptomatic, 70-90% of HBV infection in neonates result in chronic infection. Of adults infected with HBV, only 6-10% progress to the chronic carrier state. In the United States, 75% of HBV infection occurs in adults; 5% in children under 10 years of age; and 5% in neonates, although this varies greatly by ethnicity and country of origin of the mother.

According to the CDC, the estimated prevalence of HBsAg-positive pregnant women in the United States in 1997 by ethnicity was: 0.09 among whites; 0.53 among African

Americans; 5.74 among Asian/Pacific Islanders; and 0.20 among Hispanics. The risk of HBV infection among US-born children of HBsAg-negative mothers also varies according to ethnicity. This can be attributed to high rates of horizontal transmission. The annual incidence of infection among those born to White or African-American mothers who are HBsAg-negative is 51/100,000; among Asian/Pacific Islanders the annual incidence for the same group is 847/100,000.

Prevention programmes

The immunization strategy for eliminating hepatitis B virus transmission in the US as of 1999 requires screening of pregnant women, universal infant immunization, catch-up vaccination of children at high-risk of infection, routine adolescent immunization, and immunization of high-risk adults.

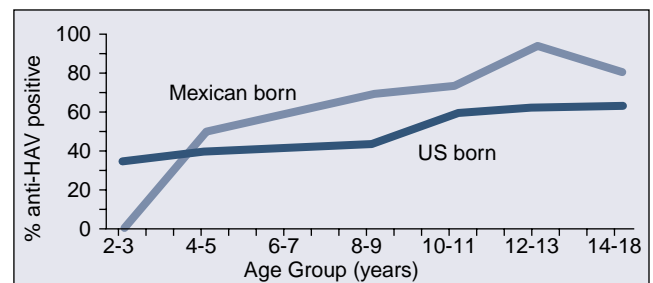
The different elements of the overall strategy have met with mixed success. Tremendous effort has been put into finding and vaccinating children at high-risk who are targeted for catch-up immunization. Migrants often fall into this group, but because these are mobile, hard-to-reach populations, the efforts have been only partially successful. For this reason, pre-arrival immunization of immigrants is favoured in the US. Post-arrival immunization is given to refugees and to adopted children under the age of 10.

Another area that has proved problematic is the prevention of perinatal transmission. It is estimated that about 50% of antigen-positive pregnant women are Asian or Pacific Islanders. While screening programmes have been able to identify these women, the follow-up programmes are only estimated to include about 60% of those identified as positive.

Hepatitis A and hepatitis C

In the US, the average incidence of hepatitis A infection is 10/100,000, although hepatitis A is a very regional disease. Here again, ethnicity plays a role. Hispanic and Native American populations have the highest incidence of disease and states with the highest concentration of these groups have the highest rates of infection. Patterns of periodic outbreaks of HAV infection also emerge, with these outbreaks driven primarily by children. A study among migrant workers in Florida in 1997 shows the differences in the percentage of anti-HAV infection even among migrant populations.

Hepatitis A virus infection among children of migrant workers, Florida, 1997



In the case of HCV, there is no contribution from foreign populations noted. Migrants have no effect on the epidemiology of HCV in a country, provided that the blood supply is safe.

Based on a presentation by Dr Harold Margolis, CDC, Atlanta, GA, USA.

Recommendations on the prevention and control of hepatitis B in migrant populations

Mass migration and increased mobility are modern phenomena that are having a tremendous impact on the epidemiology of hepatitis B infection and on national prevention programmes. Mobile populations are heterogeneous and include people from all walks of life and backgrounds. In addition, the speed and efficiency of modern transportation systems make it a challenge to introduce health interventions to mobile populations and to monitor the effectiveness of these programmes.

At the September 1999 meeting in Venice, the VHPB examined the current situation, taking particular note of the immigration trends in Europe, put forward recommendations on how to define the healthcare problems brought about by mass migration and to formulate national healthcare policy that will protect the individual and the society. What follows are definitions of different migrant populations and recommendations on what elements need to be included in successful hepatitis B prevention programmes aimed at migrant populations.

Migrant populations

Migrant populations are diverse. Those who would be considered as risk groups for hepatitis A and/or B would include:

- asylum seekers and refugees
- internal migrants moving from rural to urban areas and back, migrating because of:
 - economic considerations
 - natural disasters and political upheaval
 - development projects
- international guest workers, both seasonal and long term
- frequent travellers
- businessmen
- professionals
- air crews
- seamen
- truck drivers
- civil servants
- military personnel
- tourists
- immigrants/permanent migrants
- unofficial migrants
- students
- spouses of international marriages
- children adopted internationally

All of these groups have specific healthcare and psycho-social needs which should be addressed. The VHPB proposes that routine immunization remains the best tool for the long-term prevention of HBV and HAV, together with education and counselling of migrants and the healthcare workers who serve these populations.

Recommendations

- HBV vaccination should be offered to all migrants coming from high prevalence areas to low prevalence areas. Immunization programmes should include screening and counselling.
- Migrants should be screened for HBsAg and anti HBC. All susceptible persons should be immunized against HBV.
- When HBV carriers are identified, they should be offered:
 - counselling
 - an evaluation of the possible treatments available
 - follow up for chronic liver disease
 - benefit of confidentiality
- New borns of HBV carrier mothers should be immunized at birth, or as soon after as possible.
- HAV vaccination should be given to frequent travellers at risk and to all military personnel.
- Providing the blood supply is safe, migrants are not a risk for community-wide transmission of HCV.

Recommendations continued

Immigrant workers

All incoming healthcare workers should be vaccinated, as is the recommendation for all healthcare workers. Screening healthcare workers for chronic HBV and HCV is not indicated.

Adopted children

- Candidate adoptive parents should receive counselling so that they understand fully the issues of international adoption.
- Candidate adoptive parents should have access to reliable information on the hepatitis B status of the perspective adopted child before the adoption takes place. However, they should be aware that not all screening information is reliable.
- The VHPB recommends that the adopted child be retested as soon as possible after arriving in the home country of the parents.
- All household contacts should be vaccinated if the adopted child is HBsAg positive.
- All children in foster care or in institutional care should receive HB immunization.

Refugees and asylum seekers

Refugees and asylum seekers fall into two categories: those who are relocated by government programmes and are living in organized camp settings; and those who have moved on their own under no organized programme.

Management in camps

- It is imperative that all relief workers and staff of refugee camps be immunized for hepatitis A and hepatitis B, ideally, before arriving in the camps or alternative, immediately upon arrival.
- Immunization of all refugees for hepatitis A to prevent outbreaks of infection in the camps is recommended in low endemic countries. Good general hygiene is also a necessary preventative measure. Vaccination for hepatitis A is not a priority in high endemic countries, but is recommended in countries of intermediate endemicity for hepatitis A.
- As HBV and HCV are also sexually transmitted, information about transmission and prevention should be made available as part of any prevention programme.
- All injections should be delivered according to safe medical practice.

Refugees identified for resettlement and asylum seekers

- HB immunization should be carried out:
 - without antiHBc screening of children in recipient countries where routine infant immunization is in place;
 - after antiHBc screening for all age groups in recipient countries where routine HB immunization is not yet implemented.
- AntiHBc screening and vaccination should be performed in adults.
- Testing should not be related to the outcome of the integration process, but should be performed in the interest of individual and public health.
- Refugees should receive culturally appropriate information on screening and vaccination.
- All countries are strongly encouraged to exchange epidemiological information on refugees.

Sex workers

Sex workers include men, women and transgender persons who provide sex for money or remuneration. Immigrants have rapidly become a major proportion of the sex worker population in many countries. In the EU, an average of 40% of sex workers are foreign born. Immigrant sex workers bring the viral hepatitis epidemiology of their country of origin, although in some cases the prevalence rates of HBV and HCV may be higher or lower than that found in their countries of origin.

Although sex work is illegal in many countries, the goal of disease prevention is to ensure that these people are served by the public health authority and that they have access to healthcare services.

The VHPB website has a new look and a new address.

Visit the redesigned site and find:

- a complete listing of all the previous issues of **Viral Hepatitis** and other VHPB publications which can be downloaded;
- recommendations issued by the VHPB;
- contact addresses;
- general information on viral hepatitis;
- member information and a discussion of the Board's activities;
- links to other useful sites.

The new address for the Viral Hepatitis Prevention Board site is:

www.vhpb.org



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The Viral Hepatitis Prevention Board works under the auspices of the Society of Occupational Medicine and the European Public Health Association. The Board is supported by grants from the pharmaceutical industry (SmithKline Beecham Biologicals, Aventis Pasteur MSD, Merck Sharp & Dohme) but has strict scientific independence.

Viral Hepatitis is published and produced by the VHPB, and printed by Jacqumain Ltd., Antwerp, Belgium.

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