The participants to the seminar were asked to answer an anonymous questionnaire aimed at identifying their attitudes towards the risk of inadvertent infection of health personnel in general and their attitudes towards the concept of routine screening. The questionnaire was divided into two sections: the first aiming to identify the status and seniority of the respondents besides their vaccination status, while the second posed direct questions to assess the participants attitudes towards routine patient screening. A total of 86 participants returned the questionnaire survey. Thirty one (36%) of these belonged to the medical profession, while 52 (61%) belonged to the nursing profession. Three were medical/dental students (Table 1).

**TABLE 1: STATUS OF PARTICIPANTS**

* (*: includes specialist in-training)

<table>
<thead>
<tr>
<th>MEDICAL PRACTITIONER:</th>
<th>No</th>
<th>Age range</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. General practitioner/pre-registration</td>
<td>9</td>
<td>(28-45yrs)</td>
</tr>
<tr>
<td>b. Medical specialist</td>
<td>8</td>
<td>(26-77yrs)</td>
</tr>
<tr>
<td>c. Surgical/dental specialist</td>
<td>2</td>
<td>(29-67yrs)</td>
</tr>
<tr>
<td>d. Obstetrics Gynaecology specialist</td>
<td>8</td>
<td>(25-51yrs)</td>
</tr>
<tr>
<td>e. Administration/Public Health</td>
<td>4</td>
<td>(28-31yrs)</td>
</tr>
<tr>
<td>NURSING PROFESSION:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>f. Administrative/teaching</td>
<td>2</td>
<td>(47-59yrs)</td>
</tr>
<tr>
<td>g. Ward care</td>
<td>11</td>
<td>(20-34yrs)</td>
</tr>
<tr>
<td>h. Outpatients/Polyclinics/Community</td>
<td>4</td>
<td>(38-46yrs)</td>
</tr>
<tr>
<td>i. Operating theatre/ITU/Renal Unit</td>
<td>20</td>
<td>(22-55yrs)</td>
</tr>
<tr>
<td>j. Midwifery</td>
<td>15</td>
<td>(23-38yrs)</td>
</tr>
<tr>
<td>STUDENT:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>k. Medical/dental</td>
<td>3</td>
<td>(21-28yrs)</td>
</tr>
</tbody>
</table>

The mean age of the respondents was 31.12 years with a
range of 20 - 77 years (Figure 1). There were two individual, both from the medical profession, who were beyond retiring age. Four respondents did not furnish information about their age. The distribution range of ages by status is shown in Table 1.

The majority of respondents (65: 75.6%) were vaccinated against Hepatitis B, while a further eight (9.3%) were only partially vaccinated. This latter group may reflect either recent awareness regarding vaccination or loss of interest after starting the course. The remainder (13: 15.1%) were not vaccinated. The non-vaccinated and partially vaccinated groups were aged 21 - 77 years, with only three individuals being aged over 55 years - two retired practitioners and one administrative nurse. Of these two groups, eight individuals belonged to the medical profession, twelve to the nursing profession, and one medical student. It is pertinent to note that half of the non-vaccinated medical practitioners were in general practice or in administrative/public health. All the obstetricians who participated in the study were vaccinated. In the nursing profession, eight of the partially or non-vaccinated respondents worked in high risk situation (Operating theatre/ITU/Renal unit), while two others were midwives and a further two worked in the
wards. The proportion of non-vaccinated medical and nursing is disturbing particularly since a significant proportion of these are at high risk of infection. Ensuring easy access to vaccination at the relevant department, under the direction of the Hospital Infection Officer, may help increase the vaccination rate of hospital employees. All employees should be made aware of the risk to themselves, and vaccination actively promoted.

The majority of the staff showed an understanding of the ethical issues involved regarding screening for blood viral transmissible disease, but were acutely aware and concerned of the risks they are subject to. The majority (46: 53.5%) thus believed that the ethical issues between hepatitis B and AIDS screening were only partially related. The remainder believed the issues to be identical (20: 23.3%) or completely unrelated (20: 23.3%). In questioning attitudes regarding the "rights of the individual" against the "rights of the many" in relation to screening, the majority (66: 76.7%) believed that the the rights of the many outweigh the rights of the individual. Thirteen (15.1%) believed that the individual's rights must be respected. Of these 13 respondents, three individuals had not received hepatitis vaccination. Seven participants were undecided regarding the ethical issue concerned. Of these two were non-vaccinated and a further two were partially vaccinated.

The large majority of participants believed that there should be routine screening of patients for both Hepatitis B and AIDS. Thus 84.9% of the respondents believed that patients coming for elective surgery or obstetric care should be routinely screened. For Hepatitis B however, there were slightly divergent views with 83.4% favouring routine screening in patients coming for elective surgery while 91.9% favouring routine screening of obstetric patients. Eleven participants did not favour routine AIDS screening of surgical and/or obstetric patients. These individuals included eight doctors working as general practitioners/pre-registration doctors (3), medical specialists or in-training (3), and administration/public health (2). Only one doctor working in the surgical/dental field did not favour routine screening. Two individuals in the nursing profession did not favour screening - one working in the wards, the
other a midwife. The latter however favoured routine screening for AIDS in obstetric patients. These participants further believed that screening should only be performed with patient consent (7), while three believed that it should be performed in high risk cases only. Only one noted that screening should never be performed. Eight of the above 11 participants in addition did not favour routine Hepatitis B screening for surgical patients. These excluded the midwife, and two medical practitioners working in general practice and in the medical specialty. A further four individuals (three practitioners - general practitioner, medical specialty, and public health - and ward nurse) believed that routine screening should be routinely performed in obstetric patients.

The survey participants preferred that routine screening should be carried out with (37.2%) or without (51.2%) patient consent. One participant (1.2%) believed that screening should never be performed, while 7.0% believed that screening should only be performed in high risk cases. There were three non-respondents (Table 2). The respondents (88.4%) believed that if a patient refuses consent then he/she should be considered and managed as positive. Only 5.8% of the respondents (1 medical specialist, 1 ward nurse, one theatre nurse, and two midwives) believed that patient refusing consent should not be considered positive, the remainder failed to answer the section. It was generally believed that patients proved or assumed positive for Hepatitis B (76.7%) or AIDS (80.2%) should have their medical case reviewed by two senior consultants in that specialty and the management plan reassessed accordingly. Nearly all the respondents (90.7%) believed that AIDS and Hepatitis B should be considered an industrial occupational disease in medical and paramedical personnel. Two of the respondents favoured Hepatitis B but not AIDS as an occupational disease. Only five respondents (1 public health doctor, 2 ward nurses, 1 theatre nurse, and 1 midwife) did not wish the infections to be defined as occupational disease. All favoured screening with (3) or without (2) patient consent.
### TABLE 2: ATTITUDES TOWARDS ROUTINE SCREENING

**A: ELECTIVE SURGICAL PROCEDURES** (non-respondents: 2)

<table>
<thead>
<tr>
<th>Action</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Routine screening for Hepatitis B</td>
<td>83.4%</td>
</tr>
<tr>
<td>b. Routine screening for AIDS</td>
<td>84.9%</td>
</tr>
</tbody>
</table>

**B: OBSTETRIC CARE** (non-respondents: 3)

<table>
<thead>
<tr>
<th>Action</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Routine screening for Hepatitis B</td>
<td>91.9%</td>
</tr>
<tr>
<td>b. Routine screening for AIDS</td>
<td>84.9%</td>
</tr>
</tbody>
</table>

**C: PATIENT CONSENT** (non-respondents: 3)

<table>
<thead>
<tr>
<th>Action</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Never perform routine screening</td>
<td>1.2%</td>
</tr>
<tr>
<td>b. Perform only in High Risk Cases</td>
<td>7.0%</td>
</tr>
<tr>
<td>c. Perform only with patient consent</td>
<td>37.2%</td>
</tr>
<tr>
<td>d. Perform without patient consent</td>
<td>51.2%</td>
</tr>
</tbody>
</table>

It would appear for the survey that the majority of health workers are aware of the risks they are exposed to when caring for potential Hepatitis B or AIDS infected patients. They believe that their rights far outweigh the rights of the individual in matters of screening and public health. Screening was seen very often as essential and was to be performed with or without patient consent. Non-consenting patients were to be considered and managed as positive. The medical and paramedical staff would prefer to see both AIDS and Hepatitis B listed as industrial occupational disease to safeguard their and their family's social benefits in case of accidental exposure.
QUESTIONNAIRE

A: PERSONAL DATA
1. What is your status in the Medical Profession.
   a. MEDICAL PRACTITIONER
      (i) General Practitioner/Pre-registration [ ]
      (ii) Specialist or in-training
           - Medical speciality (incl. anaesthesia) [ ]
           - Surgical/Dental speciality [ ]
           - Obstetrics Gynaecology [ ]
           - Administrative/Public Health [ ]
   b. NURSING PROFESSION
      (i) Administrative/educational [ ]
      (ii) Ward care [ ]
      (iii) Outpatients/Polyclinics/Community [ ]
      (iv) Operating Theatre/I.T.U./Renal unit [ ]
      (v) Midwifery [ ]
   c. STUDENT
      (i) Medical/Dental [ ]
      (ii) Nursing [ ]

2. Age (complete years) [ ] [ ] [ ]

3. Are you vaccinated against Hepatitis B
   (i) Yes [ ]
   (ii) No [ ]
   (iii) only partially [ ]

B: ATTITUDES TOWARDS ROUTINE PATIENT SCREENING
4. Do you think that the ethical issues with regards screening for Hepatitis B and AIDS are
   (i) related partially [ ]
       (ii) identical [ ]
       (iii) unrelated [ ]

5. Do you believe that the rights of the many (medical, paramedical staff, other patients) outweigh the rights of the individual in these circumstances
   (i) Yes [ ]
        (ii) No [ ]

6. Should patients attending for elective surgical procedures be routinely screened for
   (a) Hepatitis B
       (i) Yes [ ]
       (ii) No [ ]
   (b) AIDS
       (i) Yes [ ]
       (ii) No [ ]

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7. Should obstetric patients be routinely screened antenatally for
   (a) Hepatitis B  (i) Yes [ ]
                    (ii) No [ ]
   (b) AIDS       (i) Yes [ ]
                    (ii) No [ ]

8. Do you believe that screening should
   (a) never be performed [ ]
   (b) be performed only in high risk cases [ ]
   (c) only be performed with patient consent [ ]
   (d) be performed routinely without patient consent [ ]

9. If patient consent is sought and patient refuses to be tested, then he/she should be considered to be positive and managed accordingly
   (i) Yes [ ]
   (ii) No [ ]

10. Patients proved or assumed positive for Hepatitis B or AIDS should have their case reviewed by two senior consultants in that speciality and the management plan reassessed accordingly.
    (a) Hepatitis B  (i) Yes [ ]
                     (ii) No [ ]
    (b) AIDS       (i) Yes [ ]
                     (ii) No [ ]

11. AIDS and Hepatitis B should be considered an industrial occupational disease in medical and paramedical personnel.
    (i) Yes [ ]
    (ii) No [ ]
RECOMMENDATIONS

1. The Department of Health should initiate an awareness campaign among all the medical and paramedical personnel regarding the risks of inadvertent infection with AIDS and, more importantly, with Hepatitis B virus.

2. All the medical and paramedical staff should be offered vaccination against Hepatitis B, this being made easily available in the place of work. Vaccination records should be kept in a computerized form by the Hospital Infectious Disease Officer. These records would serve to recall anyone who fails to continue with the vaccination regimen. Anyone opting against vaccination should be counselled about the risk to himself and his family.

3. Routine screening must be seriously considered. The ethical issues regarding routine screening for Hepatitis B are different than for AIDS, since a protective measure for the neonate is presently available. All obstetric women should be routinely screened for Hepatitis B, in order that neonates at risk will be identified and vaccinated at birth. It may be opportune to introduce a Hepatitis B vaccination program in all neonates at birth, irrespective of the maternal status.

4. The hospital should have an Infectious Disease Team, made up of clinical workers, whose function would be to actively observe and identify practices in the wards, operating theatres, Labour suite, etc., which may be dangerous in respect to risk of inadvertant infections. Each department should review its practices in order to identify those that have increased infection risk and to find alternative safer forms of management.

5. Safety precautions must be taken with each and every patient undergoing high risk treatment. The facilities to enable safe practice must be made easily available by the department.

6. The medical and paramedical staff are continuously exposed to disease, some of which is infectious with long-term effects. This must be recognised by the administration and a list of medical occupational disease
should be drawn up and included in the Social Security Act. Since some of these diseases have long-term effects, the duration of social assistance requires review.

7. The Hospital Ethical Committee needs to be set up as soon as possible to deal with the various ethical issues which may and do arise as part of patient management. An active committee would, among other issues, discuss the role of routine screening. This problem relates not only for the routine screening for viral transmissible disease, but also for such non-treatable genetic disease as Thalassaemia. It is ironical that the Department is currently condoning the routine screening in obstetric patients for Beta-Thalassaemia with its minimal public health effects, but has not introduced routine screening of Hepatitis B!

8. It is essential for the Department of Health to undertake non-linked epidemiological testing to identify the incidence of HIV and Hepatitis B positive individuals in the Maltese population. Only thus can the true size of the problem be identified. This project should receive priority considerations, so that preventive measures can be planned adequately.

ACKNOWLEDGEMENTS

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