

Table 22: Summary of Surveys Included in Meta-Analysis: Iraq Western Asia

| Country | Study (survey year*) | Region | Population and sampling method | Sex | Sample (n) | HBsAg positive (%) | lower 95% CI | upper 95% CI | RE weight (%) | FE weight (%) | Reference | Access No | |
|---------|-----------------------|--------|--|---------------|------------|--------------------|--------------|--------------|---------------|---------------|---|-----------|-----|
| Iraq | Chironna, 2000, | | Refugee Kurds from Iraq arriving in Italy; all persons in refugee camp asked to participate; >90% participation rate (637) | both | 637 | 2.2% | 1.06% | 3.34% | 12.55% | 12.6% | Chironna, M., C. Germinario, et al. (2003). "Prevalence rates of viral hepatitis infections in refugee Kurds from Iraq and Turkey." Infection 31(2): 70-4. | 12682810 | 598 |
| Iraq | Rein (CDC), 2006-2008 | | Refugees arriving in the US 2006-2008; information from states with an active refugee health coordinator (1,230) | both | 1,230 | 0.6% | 0.17% | 1.03% | 87.45% | 87.4% | Rein DB, Lesesne SB, O'Fallon A, Weinbaum CM (2009) Prevalence of hepatitis B surface antigen among refugees entering the United States between 2006 and 2008. Hepatology. 2010 Feb;51(2):431-4 | 19902482 | 601 |
| | | | | total studies | 2 | 1,867 | | | 100.00% | 100.00% | | | |
| | | | | males | 0 | | | | | | | | |
| | | | | females | 0 | | | | | | | | |
| | | | | both | 2 | | | | | | | | |

* indicates publication year; survey year not reported

Table 23: Summary of Surveys Included in Meta-Analysis: Israel

Western Asia

| Country | Study (survey year*) | Region | Population and sampling method | Sex | Sample (n) | HBsAg | | | RE weight (%) | FE weight (%) | Reference | Access No | Ref No. |
|---------|-------------------------------|---------------------------|--|---------|------------|--------------|--------|--------------|---------------|---------------|--|-----------|---------|
| | | | | | | positive (%) | 95% CI | upper 95% CI | | | | | |
| Israel | Yodfat, 1979-1980 | rural area near Jerusalem | Rural population; every third name from list of total population 9 villages and 1 kibbutz; male (642) | males | 642 | 4.8% | 3.15% | 6.45% | 2.48% | 0.2% | Yodfat, Y., W. T. London, et al. (1982). "A seroepidemiologic study of hepatitis B in a rural area in Israel." <i>Am J Epidemiol</i> 116(3): 456-62. | 7124713 | 608 |
| Israel | Almog, 1992 | migrants from Former USSR | Israel military recruits; residents of USSR who immigrated to Israel; all M and F immigrants required to report for military service within one year of arrival; male (506) | males | 506 | 5.3% | 3.35% | 7.25% | 1.88% | 0.1% | Almog, R., M. Low, et al. (1999). "Prevalence of anti-hepatitis A antibodies, hepatitis B viral markers, and anti-hepatitis C antibodies among immigrants from the former USSR who arrived in Israel during 1990-1991." <i>Infection</i> 27(3): 212-7. | 10378135 | 603 |
| Israel | Cohen, 2010* | all | Psoriasis patients >20 yo; data extracted from the medical database of Clalit Health Service; largest healthcare provider in Israel; males (6,516) | males | 6,516 | 0.9% | 0.69% | 1.15% | 11.67% | 8.1% | Cohen, A. D., D. Weitzman, et al. (2010). "Psoriasis associated with hepatitis C but not with hepatitis B." <i>Dermatology</i> 220(3): 218-22. | 20185894 | 602 |
| Israel | Cohen, 2010* | all | Patients without psoriasis >20 yo; data extracted from the medical database of Clalit Health Service; largest healthcare provider in Israel; males (12,198) | males | 12,198 | 0.7% | 0.54% | 0.84% | 12.22% | 20.2% | Cohen, A. D., D. Weitzman, et al. (2010). "Psoriasis associated with hepatitis C but not with hepatitis B." <i>Dermatology</i> 220(3): 218-22. | 20185894 | 602 |
| Israel | Naggan, 1976 | Beersheba | Pregnant women; all women delivering at Soroko Hospital (2,000) | females | 2,000 | 2.2% | 1.56% | 2.84% | 7.79% | 1.1% | Naggan, L., S. Bar-Shany, et al. (1980). "Prevalence of hepatitis B markers (HBsAg and HBsAb) in women screened at time of delivery." <i>Isr J Med Sci</i> 16(5): 347-50. | 7399863 | 609 |
| Israel | Yodfat, 1979-1980 | rural area near Jerusalem | Rural population; rural population; every third name from list of total population 9 villages and 1 kibbutz; female (768) | females | 768 | 2.0% | 1.01% | 2.99% | 5.11% | 0.4% | Yodfat, Y., W. T. London, et al. (1982). "A seroepidemiologic study of hepatitis B in a rural area in Israel." <i>Am J Epidemiol</i> 116(3): 456-62. | 7124713 | 608 |
| Israel | Bogomolski-Yahalom, 1984-1988 | Jerusalem | Pregnant women; women admitted for delivery at Hadassah Medical Center; 88% were screened (11,123) | females | 11,123 | 0.9% | 0.71% | 1.05% | 12.07% | 14.5% | Bogomolski-Yahalom, V., E. Granot, et al. (1991). "Prevalence of HBsAg carriers in native and immigrant pregnant female populations in Israel and passive/active vaccination against HBV of newborns at risk." <i>J Med Virol</i> 34(4): 217-22. | 1834799 | 607 |
| Israel | Ron-El, 1989-1990 | Tel Aviv | Women tested prior to IVF; assessment of women enrolled in IVF unit (164) | females | 164 | 5.0% | 1.66% | 8.34% | 0.71% | 0.0% | Ron-El, R., Y. Bracha, et al. (1992). "Prerequisite work-up of the couple before in-vitro fertilization." <i>Hum Reprod</i> 7(4): 483-6. | 1522189 | 612 |
| Israel | Isacsohn, 1990-1991 | Jerusalem | Pregnant women; consecutive women screened at delivery; >90% screened (6,572) | females | 6,572 | 0.6% | 0.45% | 0.83% | 11.95% | 11.7% | Isacsohn, M., J. Halevy, et al. (1994). "Prevalence of HBsAg carriers in pregnant women in Jerusalem: risk for horizontal transmission to family members." <i>Isr J Med Sci</i> 30(5-6): 368-70. | 8034485 | 605 |
| Israel | Almog, 1992 | migrants from Former USSR | Israel military recruits; residents of USSR who immigrated to Israel; all M and F immigrants required to report for military service within one year of arrival; female (93) | females | 93 | 2.2% | -0.78% | 5.18% | 0.88% | 0.0% | Almog, R., M. Low, et al. (1999). "Prevalence of anti-hepatitis A antibodies, hepatitis B viral markers, and anti-hepatitis C antibodies among immigrants from the former USSR who arrived in Israel during 1990-1991." <i>Infection</i> 27(3): 212-7. | 10378135 | 603 |
| Israel | Cohen, 2010* | all | Psoriasis patients >20 yo; data extracted from the medical database of Clalit Health Service; largest healthcare provider in Israel; females (5,986) | females | 5,986 | 0.6% | 0.36% | 0.74% | 11.98% | 12.4% | Cohen, A. D., D. Weitzman, et al. (2010). "Psoriasis associated with hepatitis C but not with hepatitis B." <i>Dermatology</i> 220(3): 218-22. | 20185894 | 602 |
| Israel | Cohen, 2010* | all | Patients without psoriasis >20 yo; data extracted from the medical database of Clalit Health Service; largest healthcare provider in Israel; females (12,089) | females | 12,089 | 0.5% | 0.33% | 0.57% | 12.35% | 30.6% | Cohen, A. D., D. Weitzman, et al. (2010). "Psoriasis associated with hepatitis C but not with hepatitis B." <i>Dermatology</i> 220(3): 218-22. | 20185894 | 602 |

| | | | | | | | | | | | | | |
|--------|--------------------|---|--|------|---------------|-------|--------|--------|-------|---------|--|----------|-----|
| Israel | Nashef, 1993* | East Jerusalem | East Jerusalem; 200 consecutive Palestinian pregnant women admitted for delivery; 200 consecutive blood donors at Makassed Hospital; 200 consecutive samples from children and teens admitted for trauma; 200 community-based samples from Ramallah district; no sampling info; East Jerusalem (778) | both | 778 | 1.8% | 0.87% | 2.73% | 5.47% | 0.5% | Nashef, L. and A. Thalji (1992). "Hepatitis B serology among the Palestinian population." <i>Ann Trop Paediatr</i> 12(3): 321-5. | 1280050 | 606 |
| Israel | Glickberg, 1997* | Bukarian Jewish migrants to Israel from Tajikistan and Uzbekistan | Adult Bukharian Jewish immigrants of Neve Yaakov —suburb of north Jerusalem where many Bukharian imigrants live; attending GP for general medical reasons and w/o known liver disease were asked to participate (102) | both | 102 | 15.7% | 8.64% | 22.76% | 0.17% | 0.0% | Glikberg, F., J. Brawer-Ostrovsky, et al. (1997). "Very high prevalence of hepatitis B and C in Bukharian Jewish immigrants to Israel." <i>J Clin Gastroenterol</i> 24(1): 30-3. | 9013347 | 604 |
| Israel | Bisharat, 1998* | | Israeli Arabs; unvaccinated Israeli citizens; no selection described (506) | both | 119 | 5.9% | 1.67% | 10.13% | 0.45% | 0.0% | Bisharat, N., O. Segol, et al. (1998). "Isolated hepatitis B surface antibody as a sole marker for past HBV infection." <i>J Infect</i> 37(2): 201-2. | 9821104 | 611 |
| Israel | Bisharat, 1998* | | Jewish kibbutz members of Western-European descent; unvaccinated Israeli citizens; no selection described (506) | both | 92 | 1.1% | -1.03% | 3.23% | 1.62% | 0.1% | Bisharat, N., O. Segol, et al. (1998). "Isolated hepatitis B surface antibody as a sole marker for past HBV infection." <i>J Infect</i> 37(2): 201-2. | 9821104 | 611 |
| Israel | Bisharat, 1998* | | Native-born Israelis of North African descent; unvaccinated Israeli citizens; no selection described (506) | both | 128 | 3.9% | 0.55% | 7.25% | 0.71% | 0.0% | Bisharat, N., O. Segol, et al. (1998). "Isolated hepatitis B surface antibody as a sole marker for past HBV infection." <i>J Infect</i> 37(2): 201-2. | 9821104 | 611 |
| Israel | Diamond, 1999-2001 | adoptees from Russia to Israel | Israelis who are adoptees to Israel from former USSR; cohort of young children who were candidates for adoption in East European orphanages and foster homes (82) | both | 82 | 3.6% | -0.43% | 7.63% | 0.50% | 0.0% | Diamond, G. W., Y. Senecky, et al. (2003). "Pre-placement screening in international adoption." <i>Isr Med Assoc J</i> 5(11): 763-6. | 14650097 | 610 |
| | | | | | total studies | 18 | 59,958 | | | 100.00% | 100.00% | | |
| | | | | | males | 4 | | | | | | | |
| | | | | | females | 8 | | | | | | | |
| | | | | | both | 6 | | | | | | | |

* indicates publication year; survey year not reported

Includes studies of Russian immigrants who comprise 14% of the population. Excludes Ethiopian immigrants who comprise 1.2% of the populaiton and have much higher CHB rates.

Table 24: Summary of Surveys Included in Meta-Analysis: Lebanon

Western Asia

| Country | Study (survey year*) | Region | Population and sampling method | Sex | Sample (n) | HBsAg | | | RE weight (%) | FE weight (%) | Reference | Access No | Ref No. |
|---------|----------------------|--|---|---------|---------------|--------------|--------|--------------|---------------|---------------|---|-----------|---------|
| | | | | | | positive (%) | 95% CI | upper 95% CI | | | | | |
| Lebanon | Saab, 1995-1997 | North, south, Beirut, Bekka, Mount Lebanon | Healthy Lebanese applying for visa to Saudi Arabia; requested to undergo a medical exam performed exclusively by Dept of Family Medicine at the American University, Beirut; males (2,053) | males | 2,053 | 1.5% | 0.94% | 1.98% | 15.44% | 11.0% | Saab, B. R., N. T. Nassar, et al. (2007). "Prevalence of hepatitis B in a presumably healthy Lebanese population." J Med Liban 55(1): 11-4. | 17489302 | 622 |
| Lebanon | Nabusi, 1993-1995 | Beirut | Pregnant women attending the antenatal clinics at the American University of Beirut Medical Center, Beirut (558) | females | 558 | 2.9% | 1.51% | 4.29% | 11.01% | 1.5% | Nabulsi, M. M., A. M. Khalil, et al. (1997). "Prevalence of hepatitis B surface antigen in pregnant Lebanese women." Int J Gynaecol Obstet 58(2): 243-4. | 9252263 | 620 |
| Lebanon | Saab, 1995-1997 | North, south, Beirut, Bekka, Mount Lebanon | Healthy Lebanese applying for visa to Saudi Arabia; requested to undergo a medical exam performed exclusively by Dept of Family Medicine at the American University, Beirut; females (487) | females | 487 | 2.5% | 1.08% | 3.84% | 11.10% | 1.6% | Saab, B. R., N. T. Nassar, et al. (2007). "Prevalence of hepatitis B in a presumably healthy Lebanese population." J Med Liban 55(1): 11-4. | 17489302 | 622 |
| Lebanon | Maalouf, 1997 | Beirut | Pregnant women; routine screening at private hospital, Hotel Dieu de France screened for HBV; private hospital owned by the French state and managed by the Université Saint-Joseph (1,992) | females | 1,992 | 1.7% | 1.16% | 2.30% | 15.22% | 9.0% | Maalouf R (1997) Hepatite B chez les femmes encientes, utilites dela vaccination chez les nouveaux-nes. Thesis, Department of Pharmacy, Université Saint-Joseph, Beirut 1997 | NPM | 619 |
| Lebanon | Nassar, 1974-1975 | Beirut | Students at American University, Beirut; no selection described (2,356) | both | 2,356 | 1.7% | 1.18% | 2.22% | 15.43% | 10.9% | Nassar, N. T., S. Y. Alami, et al. (1976). "The prevalence of hepatitis B surface antigen (HBsAg) among students and blood donors at the American University of Beirut (AUB)." Johns Hopkins Med J 139 SUPPL: 45-8. | 1011407 | 621 |
| Lebanon | Nabulsi, 1997-1999 | 60% from Beirut and suburbs; also from Saidaon (south); Tripoli (north); Zahleh (east); others | Children presenting to any of the 6 hospitals for routine check-up, vaccinations, elective surgery, or minor illness (841) | both | 841 | 0.1% | -0.11% | 0.35% | 16.28% | 54.1% | Nabulsi, M. M., G. F. Araj, et al. (2001). "Prevalence of hepatitis B infection markers in Lebanese children: the need for an expanded programme on immunization." Epidemiol Infect 126(2): 285-9. | 11349979 | 618 |
| Lebanon | Baddoura, 2002* | national | Persons tested at serology labs; all individuals presenting to all lab units in the country over a 2-week period for any medical reason; "representative of the Lebanese population wrt to sex and district distributions"; young are under-represented (2,893) | both | 2,893 | 1.9% | 1.40% | 2.40% | 15.52% | 12.0% | Baddoura, R., C. Haddad, et al. (2002). "Hepatitis B and C seroprevalence in the Lebanese population." East Mediterr Health J 8(1): 150-6. | 15330570 | 617 |
| | | | | | total studies | 7 | 11,180 | | | 100.00% | 100.00% | | |
| | | | | | males | 1 | | | | | | | |
| | | | | | females | 3 | | | | | | | |
| | | | | | both | 3 | | | | | | | |

* indicates publication year; survey year not reported

Table 25: Summary of Surveys Included in Meta-Analysis: Turkey

Western Asia

| Country | Study (survey year*) | Region | Population and sampling method | Sex | Sample (n) | HBsAg | | | RE weight (%) | FE weight (%) | Reference | Access No | Ref No. |
|---------|----------------------|----------------------|---|-------|------------|--------------|--------------|--------------|---------------|---------------|---|-----------|---------|
| | | | | | | positive (%) | lower 95% CI | upper 95% CI | | | | | |
| Turkey | Sobeslavsky, 1980* | Izmir | Apparently healthy non-institutionalized population of Izmir; individuals of both sexes and different age groups; male (782) | males | 782 | 10.5% | 8.35% | 12.65% | 1.28% | 0.2% | Sobeslavsky O. (1980) Prevalence of markers of hepatitis B virus infection in various countries: a WHO collaborative study. 58(4):621-8 | 6969134 | 703 |
| Turkey | Uc, 1991 | Ankara | Children at outpatient clinic; excluded for hemophilia, CRF, cancer, immune deficiencies, chronic LD, acute hepatitis; males (237) | males | 237 | 5.5% | 2.59% | 8.39% | 1.04% | 0.1% | Uc A and Ozsoylu S (1992) Age-prevalence of HBsAg positivity in children seen at Hacettepe Children's Hospital Turk Tip Arastirma 10(5):264-266 | NPM | 690 |
| Turkey | Kuru, 1993 | Istanbul | General population of Istanbul; blood donors at the Bakirkoy Maternity Hospital; patients older and younger than this were patients who came to the same hospital for any reason except liver disease; none had received transfusions or blood products; male (542) | males | 542 | 6.3% | 4.25% | 8.35% | 1.31% | 0.2% | Kuru, U., S. Senli, et al. (1995). "Age-specific seroprevalence of hepatitis B virus infection." Turk J Pediatr 37(4): 331-8. | 8560600 | 650 |
| Turkey | Candan, 1996 | Sivas region | Male barbers selected randomly from list of barbers registered with local chambers of trade; Sivas region (176) | males | 176 | 8.5% | 4.38% | 12.62% | 0.74% | 0.0% | Candan, F., H. Alagozlu, et al. (2002). "Prevalence of hepatitis B and C virus infection in barbers in the Sivas region of Turkey." Occup Med (Lond) 52(1): 31-4. | 11872792 | 659 |
| Turkey | Candan, 1996 | Sivas region | Male tradesmen selected randomly from list of tradesmen registered with local chambers of trade; Sivas region (176) | males | 180 | 5.0% | 1.82% | 8.18% | 0.96% | 0.1% | Candan, F., H. Alagozlu, et al. (2002). "Prevalence of hepatitis B and C virus infection in barbers in the Sivas region of Turkey." Occup Med (Lond) 52(1): 31-4. | 11872792 | 659 |
| Turkey | Erdem, 1996-1999 | all | Military recruits; "viral markers are checked on all soldiers on admission to military; service mandatory; males (40,953) | males | 40,953 | 4.9% | 4.65% | 5.07% | 1.76% | 17.1% | Erdem, H., S. Oncu, et al. (2005). "Prevalence of hepatitis B virus infection in young Turkish men." Trop Doct 35(3): 192. | 16105361 | 673 |
| Turkey | Kosecik, 1997 | Sanliurfa region | Adults and children visiting Pediatrics and Internal medicine polyclinics of Harran University Medical faculty; male (593) | males | 593 | 13.3% | 10.57% | 16.03% | 1.09% | 0.1% | Kosecik M, Nazhgül Y, Cebeci B, Dalmaz M, Mansur Tathl M, Emiroglu HM (1997) Çanliurfa yöresinde hepatit B virus tasiyiciligi. Genel Tip Derg 1997;7(2):129-31 | NPM | 696 |
| Turkey | Erden, 1998-2001 | Istanbul | Randomly selected clinic patients w/o liver disease male (321) | males | 321 | 12.1% | 8.53% | 15.67% | 0.86% | 0.1% | Erden, S., S. Buyukozturk, et al. (2003). "A study of serological markers of hepatitis B and C viruses in Istanbul, Turkey." Med Princ Pract 12(3): 184-8. | 12766338 | 663 |
| Turkey | Kanra, 1998 | eight provinces | General population; samples obtained from the National Varicella and Hepatitis A Seropositivity Study; 30 clusters in urban and rural areas; "not completely representative of Turkey"—missing Edirne province; male (1,028) | males | 1,028 | 6.6% | 5.08% | 8.12% | 1.48% | 0.3% | Kanra, G., S. Tezcan, et al. (2005). "Hepatitis B and measles seroprevalence among Turkish children." Turk J Pediatr 47(2): 105-10. | 16052847 | 672 |
| Turkey | Okan, 1998-2000 | Gaziantep | Type 2 diabetics; consecutive patients referred clinic University of Gaziantep; consecutive patients referred to the medical facility at the University of Gaziantep; exclude for prior blood transfusion; males (260) | males | 260 | 5.3% | 2.58% | 8.02% | 1.10% | 0.1% | Okan, V., M. Araz, et al. (2002). "Increased frequency of HCV but not HBV infection in type 2 diabetic patients in Turkey." Int J Clin Pract 56(3): 175-7. | 12018820 | 660 |
| Turkey | Erdem, 2000-2003 | all | Military recruits; viral markers are checked on all soldiers on admission to military; service mandatory; males (46,693) | males | 46,693 | 4.6% | 4.39% | 4.77% | 1.76% | 20.6% | Erdem, H., S. Oncu, et al. (2005). "Prevalence of hepatitis B virus infection in young Turkish men." Trop Doct 35(3): 192. | 16105361 | 673 |
| Turkey | Demirtürk, 2002-2004 | Afyon (west central) | Prospective study of all persons visiting university hospital clinic for routine health checks; excluded for hx jaundice or hepatitis, male (606) | males | 606 | 9.0% | 6.72% | 11.28% | 1.24% | 0.1% | Demirturk, N., T. Demirdal, et al. (2006). "Hepatitis B and C virus in West-Central Turkey: seroprevalence in healthy individuals admitted to a university hospital for routine health checks." Turk J Gastroenterol 17(4): 267-72. | 17205404 | 676 |

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|--------|----------------------|--------------------------------------|---|---------|-------|------|--------|--------|-------|------|---|----------|------|
| Turkey | Mehmet, 2003 | southeastern region | General population 30-cluster sampling method; male (1,418) | males | 1,418 | 8.1% | 6.70% | 9.54% | 1.51% | 0.4% | Mehmet, D., E. Meliksah, et al. (2005). "Prevalence of hepatitis B infection in the southeastern region of Turkey: comparison of risk factors for HBV infection in rural and urban areas." <i>Jpn J Infect Dis</i> 58(1): 15-9. | 15728984 | 670 |
| Turkey | Emiroglu, 2004 | Shirnak (city in SE) | Military personnel and families; from various parts of the country; no info on sampling, eligibility, or participation rate; Shirnak); male (1,117) | males | 1,177 | 7.9% | 6.36% | 9.44% | 1.47% | 0.3% | Emiroglu, H. H., H. Altunay, et al. (2004). "Prevalence of hepatitis B virus carriers among soldiers and civilians in Turkey." <i>J Clin Gastroenterol</i> 38(7): 614-5. | 15232371 | 667 |
| Turkey | Gulcan, 2005-2007 | Istanbul | Diabetics and non-diabetics; consecutive pts attending clinic; Istanbul male (342) | males | 342 | 5.9% | 3.36% | 8.34% | 1.17% | 0.1% | Gulcan, A., E. Gulcan, et al. (2008). "Evaluation of risk factors and seroprevalence of hepatitis B and C in diabetic patients in Kutahya, Turkey." <i>J Investig Med</i> 56(6): 858-63. | 18667903 | 683 |
| Turkey | Akcam, 2006-2007 | 3 regions of rural southwest | Rural villages; subjects selected by using a random numbers table of Household Determination Cards, which are a record of every individual in the national health registration system; 3 regions of rural southwest male (967) | males | 967 | 3.2% | 2.10% | 4.32% | 1.60% | 0.6% | Akcam, F. Z., E. Uskun, et al. (2009). "Hepatitis B virus and hepatitis C virus seroprevalence in rural areas of the southwestern region of Turkey." <i>Int J Infect Dis</i> 13(2): 274-84. | 18945630 | 684 |
| Turkey | Yildirim, 2009* | 70 areas of Tokat (Black Sea region) | General population selected by random sampling in 70 urban and rural areas of Tokat (Black Sea) male (541) | males | 541 | 5.5% | 3.61% | 7.47% | 1.35% | 0.2% | Yildirim, B., S. Barut, et al. (2009). "Seroprevalence of hepatitis B and C viruses in the province of Tokat in the Black Sea region of Turkey: A population-based study." <i>Turk J Gastroenterol</i> 20(1): 27-30. | 19330732 | 685 |
| Turkey | van Steenberg, 2001* | immigrants to Netherlands | Pregnant women, Turkish immigrants to Netherlands; routine antenatal screening; (4,411) | females | 4,411 | 3.6% | 3.01% | 4.11% | 1.72% | 2.5% | van Steenberg, J. E., A. Leentvaar-Kuijpers, et al. (2001). "Evaluation of the hepatitis B antenatal screening and neonatal immunization program in Amsterdam, 1993-1998." <i>Vaccine</i> 20(1-2): 7-11. | 11567738 | 693 |
| Turkey | Sobeslavsky, 1980* | Izmir | Apparently healthy non-institutionalized population of Izmir; individuals of both sexes and different age groups; females (539) | females | 539 | 7.4% | 5.19% | 9.61% | 1.26% | 0.2% | Sobeslavsky O. (1980) Prevalence of markers of hepatitis B virus infection in various countries: a WHO collaborative study. 58(4):621-8 | 6969134 | 703 |
| Turkey | Erdem, 1990-1992 | Gazi | Pregnant women receiving routine antenatal care at Gazi University Med Center 1990-1992; screened on first visit; predominantly middle socioeconomic population; no selection described(1,224) | females | 1,224 | 4.3% | 3.19% | 5.47% | 1.59% | 0.6% | Erdem, M., I. Sahin, et al. (1994). "Prevalence of hepatitis B surface antigen among pregnant women in a low-risk population." <i>Int J Gynaecol Obstet</i> 44(2): 125-8. | 7911095 | 649 |
| Turkey | Kuru, 1991 | Istanbul | Pregnant women randomly selected from clinic attendees Istanbul (5,366) | females | 5,366 | 4.2% | 3.66% | 4.74% | 1.72% | 2.6% | Kuru, U., O. Turan, et al. (1996). "Prevalence of hepatitis B virus infection in pregnant Turkish women and their families." <i>Eur J Clin Microbiol Infect Dis</i> 15(3): 248-51. | 8740863 | 651 |
| Turkey | Uc, 1991 | Ankara | Children at outpatient clinic; excluded for hemophilia, CRF, cancer, immune deficiencies, chronic LD, acute hepatitis; females (263) | females | 263 | 5.3% | 2.61% | 8.03% | 1.10% | 0.1% | Uc A and Ozsoylu S (1992) Age-prevalence of HBsAg postivity in children seen at Hacettepe Children's Hospital Turk Tip Arastirma 10(5):264-266 | NPM | 690 |
| Turkey | Kilic, 1993* | Ankara | Healthy women in Ankara, no selection described (50) | females | 50 | 6.0% | -0.58% | 12.58% | 0.39% | 0.0% | Kilic, G., O. Ural, et al. (1993). "[Hepatitis B marker seropositivity in prostitutes using ELISA]." <i>Mikrobiyol Bul</i> 27(1): 52-5. | 8421443 | 1381 |
| Turkey | Kuru, 1993 | Istanbul | General population of Istanbul; blood donors at the Bakirkoy Maternity Hospital; patients older and younger than this were patients who came to the same hospital for any reason except liver disease; none had received transfusions or blood products; female (261) | females | 261 | 6.5% | 3.51% | 9.49% | 1.02% | 0.1% | Kuru, U., S. Senli, et al. (1995). "Age-specific seroprevalence of hepatitis B virus infection." <i>Turk J Pediatr</i> 37(4): 331-8. | 8560600 | 650 |

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|--------|----------------------|----------------------|--|---------|-------|-------|-------|--------|-------|------|--|----------|-----|
| Turkey | Kaleli, 1995-1996 | Denizli | Pregnant women admitted to Pamukkale University Medical Faculty, Denizli (312) | females | 312 | 7.7% | 4.73% | 10.65% | 1.03% | 0.1% | Kaleli B, Kaleli I, Aktan E, Ozen N, Aksit F (1997) HBsAg in pregnant and in the cord blood of their infants. <i>Perinatoloji Dergisi</i> 5(1-2):42 | NPM | 691 |
| Turkey | Biri, 1996-2000 | Ankara | Pregnant women women followed by Dept OBGYN of TCCD Hospital (451) | females | 451 | 6.9% | 4.54% | 9.20% | 1.22% | 0.1% | Biri AB, Kilic G, Bozdayi G, Tezcan S (2002) Prevalence Of Hepatitis B, Hepatitis C And Human Immunodeficiency Viruses During Pregnancy. <i>T Klin J Med Res</i> 19(2):100-103 | NPM | 692 |
| Turkey | Kosecik, 1997 | Sanliurfa region | Adults and children visiting Pediatrics and Internal medicine polyclinics of Harran University Medical faculty; females (1,436) | females | 843 | 10.8% | 8.70% | 12.90% | 1.30% | 0.2% | Kosecik M, Nazhgul Y, Cebeci B, Dalmaz M, Mansur Tathl M, Emiroglu HM (1997) Çanlıurfa yöresinde hepatit B virus tasiyicligi. <i>Genel Tip Derg</i> 1997;7(2):129-31 | NPM | 696 |
| Turkey | Harma, 1998-2002 | | Pregnant women; women paying first antenatal visit to Harran Univeristy Research Hospital OBGYN Clinic 1998 to 2002 (1,162) | females | 1,162 | 5.1% | 3.84% | 6.36% | 1.56% | 0.5% | Harma M, Harma M, Hungen N, and Demir N (2003) Vaccination of newborns from chronically infected mothers is effective in preventing hepatitis B in infants. <i>Artemis</i> 4(4):33-37 | NPM | 694 |
| Turkey | Erden, 1998-2001 | Istanbul | Clinic patients w/o liver disease; "randomly selected among those patients who came to the outpatient clinic for various reasons"; participation voluntary; no response rate; Istanbul; female (836) | females | 836 | 4.5% | 3.09% | 5.91% | 1.52% | 0.4% | Erden, S., S. Buyukozturk, et al. (2003). "A study of serological markers of hepatitis B and C viruses in Istanbul, Turkey." <i>Med Princ Pract</i> 12(3): 184-8. | 12766338 | 663 |
| Turkey | Kanra, 1998 | eight provinces | General population; samples obtained from the National Varicella and Hepatitis A Seropositivity Study; 30 clusters in urban and rural areas; "not completely representative of Turkey"—missing Edirne province; female (1,132) | females | 1,132 | 4.9% | 3.64% | 6.16% | 1.56% | 0.5% | Kanra, G., S. Tezcan, et al. (2005). "Hepatitis B and measles seroprevalence among Turkish children." <i>Turk J Pediatr</i> 47(2): 105-10. | 16052847 | 672 |
| Turkey | Okan, 1998-2000 | Gaziantep | Type 2 diabetics Gaziantep; consecutive patients referred to the medical facility at the University of Gaziantep; exclude for prior blood transfusion; females (432) | females | 432 | 5.0% | 2.94% | 7.06% | 1.31% | 0.2% | Okan, V., M. Araz, et al. (2002). "Increased frequency of HCV but not HBV infection in type 2 diabetic patients in Turkey." <i>Int J Clin Pract</i> 56(3): 175-7. | 12018820 | 660 |
| Turkey | Nas, 1999* | Ankara | Pregnant women attending antenatal clinic majority from middle socioeconomic class Ankara (3,050) | females | 3,050 | 1.3% | 0.91% | 1.71% | 1.74% | 4.6% | Nas, T., M. Z. Taner, et al. (1999). "Seroprevalence of syphilis, human immunodeficiency virus type-1, and hepatitis B virus infections among pregnant women in Turkey." <i>Int J Gynaecol Obstet</i> 66(2): 171-2. | 10468342 | 655 |
| Turkey | Demirel, 2002 | Sivas | Pregnant women attending the Antenatal Clinic Sivas region (916) | females | 916 | 2.1% | 1.15% | 2.99% | 1.65% | 0.9% | Demirel, Y., B. Duran, et al. (2004). "Seroprevalence of syphilis, hepatitis B and C, and human immunodeficiency virus infections among women." <i>Saudi Med J</i> 25(12): 2037-8. | 15711700 | 669 |
| Turkey | Yegane, 2002* | Manisa | Pregnant women followed at Turgutlu Health Center Manisa (380) | females | 380 | 6.1% | 3.65% | 8.45% | 1.20% | 0.1% | Yegane Tosan S, Yuceturk M, and Benzergil S (2002) The immunization of babies born of HBsAg positive pregnant women. <i>Ege Tip Dergisi</i> 41(1):21-23 | NPM | 695 |
| Turkey | Demirtürk, 2002-2004 | Afyon (west central) | Healthy persons; prospective study of all persons visiting university hosp clinic for routine health checks; excluded hx jaundice or hepatitis, female (714) | females | 714 | 4.6% | 3.06% | 6.14% | 1.48% | 0.3% | Demirturk, N., T. Demirdal, et al. (2006). "Hepatitis B and C virus in West-Central Turkey: seroprevalence in healthy individuals admitted to a university hospital for routine health checks." <i>Turk J Gastroenterol</i> 17(4): 267-72. | 17205404 | 676 |
| Turkey | Mehmet, 2003 | southeastern region | General population 30-cluster sampling method female (1,470) | females | 1,470 | 5.9% | 4.65% | 7.05% | 1.58% | 0.5% | Mehmet, D., E. Meliksah, et al. (2005). "Prevalence of hepatitis B infection in the southeastern region of Turkey: comparison of risk factors for HBV infection in rural and urban areas." <i>Jpn J Infect Dis</i> 58(1): 15-9. | 15728984 | 670 |

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|--------|----------------------|--|--|---------|-------|------|--------|--------|-------|------|--|----------|-----|
| Turkey | Emiroglu, 2004 | Shirnak (city in SE) | Military personnel and families; from various parts of the country; no info on sampling, eligibility, or participation rate; female (393) | females | 393 | 3.3% | 1.53% | 5.07% | 1.40% | 0.2% | Emiroglu, H. H., H. Altunay, et al. (2004). "Prevalence of hepatitis B virus carriers among soldiers and civilians in Turkey." <i>J Clin Gastroenterol</i> 38(7): 614-5. | 15232371 | 667 |
| Turkey | Gulcan, 2005-2007 | Istanbul | Diabetics and non-diabetics; consecutive pts attending clinic; Istanbul female (602) | females | 602 | 4.0% | 2.43% | 5.55% | 1.47% | 0.3% | Gulcan, A., E. Gulcan, et al. (2008). "Evaluation of risk factors and seroprevalence of hepatitis B and C in diabetic patients in Kutahya, Turkey." <i>J Investig Med</i> 56(6): 858-63. | 18667903 | 683 |
| Turkey | Uyar, 2003-2004 | Samsun (Middle Black Sea region) | Pregnant women; all women in first trimester attending the pregnancy follow-up clinics at Samsun Maternity and Women's Disease and Pediatrics Hospital; Samsun (2,598) | females | 2,598 | 2.2% | 1.60% | 2.72% | 1.72% | 2.4% | Uyar Y, Cabar C, Balci A (2009) Seroprevalence of hepatitis B virus among pregnant women in Northern Turkey. <i>Hepatitis Monthly</i> 9(2):146-149 | NPM | 697 |
| Turkey | Altinbas, 2006 | Ankara | Pregnant women consecutive women admitted to hospital Jun-Dec 2006; all pregnant women attending antenatal and high-risk pregnancy department were screened; Ankara (NA) | females | 4,700 | 2.2% | 1.78% | 2.62% | 1.74% | 4.2% | Altinbas, S., M. Erdogan, et al. (2010). "The seroprevalences of HBs Ag and anti-HCV in pregnant women in Ankara." <i>Arch Gynecol Obstet</i> 281(2): 371. | 19521710 | 686 |
| Turkey | Tekay, 2006 | South east Anatolia | Retrospectives study of pregnant women women admitted to OB/Gyn hospital; ; no selection described; south east Anatolia (2,335) | females | 2,335 | 5.1% | 4.21% | 5.99% | 1.65% | 0.9% | Tekay, F. and E. Ozbek (2006). "[Short communication: hepatitis B, hepatitis C and human immunodeficiency virus seropositivities in women admitted to Sanliurfa Gynecology and Obstetrics Hospital]." <i>Mikrobiyol Bul</i> 40(4): 369-73. | 17205695 | 677 |
| Turkey | Akcam, 2006-2007 | 3 regions of rural southwest | Rural villages; subjects selected by using a random numbers table of Household Determination Cards, which are a record of every individual in the national health registration system; 3 regions of rural southwest female (1,885) | females | 1,885 | 2.1% | 1.47% | 2.77% | 1.70% | 1.8% | Akcam, F. Z., E. Uskun, et al. (2009). "Hepatitis B virus and hepatitis C virus seroprevalence in rural areas of the southwestern region of Turkey." <i>Int J Infect Dis</i> 13(2): 274-84. | 18945630 | 684 |
| Turkey | Yildirim, 2009* | 70 areas of Tokat (Black Sea region) | General population selected by random sampling in 70 urban and rural areas of Tokat (Black Sea) female (554) | females | 554 | 5.4% | 3.53% | 7.31% | 1.36% | 0.2% | Yildirim, B., S. Barut, et al. (2009). "Seroprevalence of hepatitis B and C viruses in the province of Tokat in the Black Sea region of Turkey: A population-based study." <i>Turk J Gastroenterol</i> 20(1): 27-30. | 19330732 | 685 |
| Turkey | Kulstrunk, 1987-1989 | Kurds from Turkey | Turkish Kurds migrants to Switzerland; all refugees underwent compulsory medical exams (1,299) | both | 1,299 | 9.1% | 7.54% | 10.66% | 1.47% | 0.3% | Kulstrunk, M., D. Evequoz, et al. (1992). "Prevalence of hepatitis B virus in Kurdish refugees." <i>J Hepatol</i> 15(3): 418-9. | 1447510 | 646 |
| Turkey | Skliros, 2001* | Kurdish refugees from Turkey | Kurdish refugees living in refugee camps in Greece (154) | both | 154 | 7.1% | 3.04% | 11.16% | 0.75% | 0.0% | Skliros, E., C. Lionis, et al. (2001). "Hepatitis B and C markers in a Kurdish refugee camp in Greece." <i>J Gastroenterol Hepatol</i> 16(7): 839-40. | 11446899 | 656 |
| Turkey | Chironna, 2000 | refugees to Italy from Iraq and Turkey | Turkish Kurds in refugee camps in Italy; all persons in refugee camp asked to participate; >90% participation rate (386) | both | 386 | 6.8% | 4.29% | 9.31% | 1.16% | 0.1% | Chironna, M., C. Germinario, et al. (2003). "Prevalence rates of viral hepatitis infections in refugee Kurds from Iraq and Turkey." <i>Infection</i> 31(2): 70-4. | 12682810 | 662 |
| Turkey | Baaten, 2004 | migrants to Amsterdam | Turkish migrants to Amsterdam; random sample of residents drawn from the Population Registry (317) | both | 317 | 4.8% | 2.45% | 7.15% | 1.21% | 0.1% | Baaten GG, Sonder GJ, Dukers NH, Coutinho RA, Van den Hoek JA. (2007) <i>J Med Virol</i> | 17935187 | 681 |
| Turkey | Skliros, 1999* | living near Athens | Kurdish refugees from eastern Turkey living in Greece (126) | both | 126 | 6.4% | 2.09% | 10.61% | 0.71% | 0.0% | Skliros, E. A., A. Sotiropoulos, et al. (1999). "High prevalence of HBV infection markers in refugees from eastern countries." <i>Ital J Gastroenterol Hepatol</i> 31(1): 84-5. | 10091110 | 661 |
| Turkey | Rein, 2006-2008 | | Refugees arriving in the US 2006-2008; information from states with an active refugee health coordinator (250) | both | 78 | 1.3% | -1.21% | 3.81% | 1.16% | 0.1% | Rein DB, Lesesne SB, O'Fallon A, Weinbaum CM (2009) Prevalence of hepatitis B surface antigen among refugees entering the United States between 2006 and 2008. <i>Hepatology</i> . 2010 Feb;51(2):431-4 | 19902482 | 698 |

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|--------|-----------------------|--|--|------|--------|-------|--------|--------|-------|-------|--|----------|-----|
| Turkey | Degertekin, 1986* | different parts of Turkey except southeast | Healthy soldiers from different parts of Turkey except southeast ; no selection described(1,640) | both | 1,640 | 8.0% | 6.69% | 9.31% | 1.54% | 0.4% | Degertekin H et al. (1986) The prevalence of HBsAg in healthy people and several liver diseases in Turkey. Asian Med Journal 29(2)125-127 | NPM | 699 |
| Turkey | Degertekin, 1986* | southeast | Healthy people living in southeast; no selection described(729) | both | 729 | 8.0% | 6.03% | 9.97% | 1.34% | 0.2% | Degertekin H et al. (1986) The prevalence of HBsAg in healthy people and several liver diseases in Turkey. Asian Med Journal 29(2)125-127 | NPM | 699 |
| Turkey | Doganci, 1992* | traveling to Belgium | Volunteer healthy Turkis adults of high socioeconomic level tested just after their arrival in Belgium (116) | both | 116 | 10.3% | 4.77% | 15.83% | 0.50% | 0.0% | Doganci, L. and T. Haznedaroglu (1992). "Prevalence of hepatitis A, B and C in Turkey." Eur J Clin Microbiol Infect Dis 11(7): 661-2. | 1396780 | 645 |
| Turkey | Poyraz, 1992* | | Healthy controls for dialysis patients; no info on sampling, eligibility, or participation rate (50) | both | 50 | 6.0% | -0.58% | 12.58% | 0.39% | 0.0% | Poyraz, O., Y. Oztop, et al. (1992). "[Frequency of appearance of HBsAg and anti-HBs in hemodialysis patients]." Mikrobiyol Bul 26(3): 261-5. | 1528146 | 647 |
| Turkey | Cetinkaya, 1993-1994 | Samsun, middle of the Black Sea region | Children in hospital; all children admitted to Ondokuz Mais Univeristy Children's Hospital Jan1993-May 1994 were studied; Samsun, middle of the Black Sea region (1,316) | both | 1,316 | 3.2% | 2.25% | 4.15% | 1.64% | 0.8% | Cetinkaya, F., N. Gurses, et al. (1995). "Hepatitis B seroprevalence among children in a Turkish hospital." J Hosp Infect 29(3): 217-9. | 7615939 | 648 |
| Turkey | Kocabas, 1993-1994 | Adana, southern Turkey | Hospitalized children with no history of jaundice or transfusion Adana, southern Turkey (45) | both | 45 | 20.0% | 8.31% | 31.69% | 0.14% | 0.0% | Kocabas, E., N. Aksaray, et al. (1997). "Hepatitis B and C virus infections in Turkish children with cancer." Eur J Epidemiol 13(8): 869-73. | 9476814 | 652 |
| Turkey | Guler, 1993* | rural region in Ankara | Villagers; all residents of a small village were invited to participate; 91% did so; rural region in Ankara (784) | both | 784 | 10.6% | 8.45% | 12.75% | 1.28% | 0.2% | Guler C and telatar H (1993) The prevalence of hepatitis B virus in a village. Turk J Med Res 11(5)247-248 | NPM | 700 |
| Turkey | Guven, 1996 | Ankara | Workers at low risk; employed by the Provincial Directorate of Rural Services Ankara (571) | both | 571 | 6.7% | 4.61% | 8.69% | 1.31% | 0.2% | Guven, R., H. Ozcebe, et al. (2006). "Hepatitis B prevalence among workers in Turkey at low risk for hepatitis B exposure." East Mediterr Health J 12(6): 749-57. | 17333819 | 679 |
| Turkey | Oge, 1996 | Ankara | Urologic surgery patients Ankara; consecutive patients admitted to Dept Urology, Hacettepe University Hosp who underwent a surgical procedure for urological problems, Jan-Oct 1996; routine pre-op serology (300) | both | 300 | 6.3% | 3.57% | 9.09% | 1.09% | 0.1% | Oge, O., H. Ozen, et al. (1998). "Occupational risk of hepatitis B and C infections in urologists." Urol Int 61(4): 206-9. | 10364750 | 654 |
| Turkey | Altiparmak, 1996* | Istanbul | Healthy subjects, pregnant women, dentists, and barbers of various age groups in Istanbul, no selection available (5,601) | both | 5,601 | 8.0% | 7.31% | 8.73% | 1.69% | 1.5% | Altiparmak, M. R., O. N. Pamuk, et al. (2001). "Prevalence of serum antibodies to hepatitis B and C viruses in patients with primary glomerulonephritis." J Nephrol 14(5): 388-91. | 11730272 | 658 |
| Turkey | Degertekin, 1997-1999 | Diyarbakir, Anatolia | School children no selection desribed; Diyarbakir, Anatolia (1,100) | both | 1,100 | 5.2% | 3.87% | 6.49% | 1.54% | 0.4% | Degertekin, H., A. Tuzcu, et al. (2000). "Horizontal transmission of HBV infection among students in Turkey." Public Health 114(5): 411-2. | 11035467 | 657 |
| Turkey | Degertekin, 1997-1999 | Diyarbakir, Anatolia | Healthy adults; patients relatives in our medical center who appeared healthy Diyarbakir, Anatolia (400) | both | 400 | 9.0% | 6.20% | 11.80% | 1.07% | 0.1% | Degertekin, H., A. Tuzcu, et al. (2000). "Horizontal transmission of HBV infection among students in Turkey." Public Health 114(5): 411-2. | 11035467 | 657 |
| Turkey | Kuyucu, 1998* | | Children; no info on how sampling was done; no participation rate; excluded vaccinated children and those with acute hepatitis, liver disease, immunodeficiencies, or dz requiring multiple transfusions(1,305) | both | 1,305 | 1.9% | 1.18% | 2.66% | 1.68% | 1.3% | Kuyucu, N., A. Dokmen, et al. (1998). "Seroprevalence of hepatitis B infection in Turkish children." Infection 26(5): 317-8. | 9795796 | 653 |
| Turkey | Ozdemir, 1999-2001 | Ankara | Consecutive patients hospitalized at cardiology clinic (14,196) | both | 14,196 | 2.5% | 2.24% | 2.76% | 1.75% | 11.3% | Ozdemir, O., K. Arda, et al. (2003). "Seroprevalence of hepatitis B and C in subjects admitted to a cardiology clinics in Turkey." Eur J Epidemiol 18(3): 255-8. | 12800951 | 664 |

| | | | | | | | | | | | | | |
|---------------|---------------------|--|---|------|--------|---------|--------|--------|---------|---------|--|----------|-----|
| Turkey | Altindis, 2000-2001 | Northern Cyprus and Turkey | Turkish soldiers in Cyprus; 75% male; no info on sampling, eligibility, or participation rate (11,234) | both | 11,234 | 2.2% | 1.89% | 2.43% | 1.75% | 10.3% | Altindis, M., S. Yilmaz, et al. (2006). "Seroprevalence and genotyping of hepatitis B, hepatitis C and HIV among healthy population and Turkish soldiers in Northern Cyprus." <i>World J Gastroenterol</i> 12(42): 6792-6. | 17106927 | 675 |
| Turkey | Mistik, 2000* | | General population; no sampling available; study in Turkish; widely quoted study in Turkish (1,190) | both | 1,190 | 7.1% | 5.64% | 8.56% | 1.50% | 0.3% | Mistik R, Balik I (2003) Epidemiological analysis of viral hepatitis in Turkey In: Tekeli E, Balik I, editors. <i>Viral Hepatit. Istanbul: Viral Hepatitle Savaşım Derneği</i> ; 2003. p. 9-55. | NPM | 701 |
| Turkey | Altindis, 2001* | Afyon (west central) | Elderly unimmunized persons attending Koccepe University Hospital for reasons other than hepatitis; Afyon (west central) (97) | both | 97 | 6.2% | 1.40% | 11.00% | 0.61% | 0.0% | Altindis M (2001) The prevalence of Hepatitis B virus and Hepatitis C virus infections in elderly persons in Afyon, Turkey. <i>Arch Gastroenterohepatol</i> 20 (No 1 – 2) | NPM | 702 |
| Turkey | Kurcer, 2002* | Malatya | General population; household selected by stratified random sampling from registry Malatya (650) | both | 650 | 6.0% | 4.17% | 7.83% | 1.38% | 0.2% | Kurcer MA, Pehlivan E (2002) Hepatitis B prevalence and risk factors in urban areas of Malatya. <i>Turk J Gastroenterol</i> 13(1):1-5 | 16378266 | 689 |
| Turkey | Sonmez, 2002-1005 | Trabzon | Controls for pts with lymphoma selected from ortho, general surgery, urology, ophthalmology and ENT clinics with irrelevant diseases (551) | both | 551 | 5.3% | 3.40% | 7.12% | 1.37% | 0.2% | Sonmez, M., O. Bektas, et al. (2007). "The relation of lymphoma and hepatitis B virus/hepatitis C virus infections in the region of East Black Sea, Turkey." <i>Tumori</i> 93(6): 536-9. | 18338485 | 687 |
| Turkey | Ertekin, 2003* | Erzerum, East Turkey's largest city | Urban children from 12 schools chosen by systematic sampling method Erzerum, East Turkey's largest city (1,059) | both | 1,059 | 1.3% | 0.63% | 2.01% | 1.70% | 1.6% | Ertekin, V., M. A. Selimoglu, et al. (2003). "Sero-epidemiology of hepatitis B infection in an urban paediatric population in Turkey." <i>Public Health</i> 117(1): 49-53. | 12802905 | 665 |
| Turkey | Atabek, 2003* | Konya | Diabetics and non-diabetics adolescents; random sample from the outpatients clinic Knoya (126) | both | 126 | 1.6% | -0.59% | 3.77% | 1.27% | 0.2% | Atabek, M. E., H. Kart, et al. (2003). "Prevalence of hepatitis A, B, C and E virus in adolescents with type-1 diabetes mellitus." <i>Int J Adolesc Med Health</i> 15(2): 133-7. | 12955815 | 666 |
| Turkey | Karabay, 2003 | Bolu province | Urban and rural populations; voluntary "public survey"; sampling method not clear, Bolu province (2,204) | both | 2,204 | 2.7% | 2.02% | 3.38% | 1.70% | 1.6% | Karabay, O., E. Serin, et al. (2004). "Hepatitis B carriage and Brucella seroprevalence in urban and rural areas of Bolu province of Turkey: a prospective epidemiologic study." <i>Turk J Gastroenterol</i> 15(1): 11-3. | 15264115 | 668 |
| Turkey | Utkan, 2003-2004 | Bolumu | Retrospective review of pts hospitalized to orthopedic/trauma dept (1,040) | both | 1,040 | 2.3% | 1.39% | 3.21% | 1.65% | 0.9% | Utkan, A., A. Dayican, et al. (2006). "[Seroprevalences of hepatitis B, hepatitis C, and HIV in patients admitted to orthopedic and traumatology department]." <i>Acta Orthop Traumatol Turc</i> 40(5): 367-70. | 17220644 | 678 |
| Turkey | Alim, 2005 | Sivas, a central Anatolian city | Engaged couples enrolled at 20 Health Centers and one Maternity Center in Sivas, central Anatolia (1,332) | both | 1,332 | 1.7% | 1.01% | 2.39% | 1.69% | 1.5% | Alim, A., M. O. Artan, et al. (2009). "Seroprevalence of hepatitis B and C viruses, HIV, and syphilis infections among engaged couples." <i>Saudi Med J</i> 30(4): 541-5. | 19370284 | 688 |
| Turkey | Otkun, 2005* | Edirne (northwest at the border of Greece and Bulgaria) | Children randomly selected from population of primary healthcare units; Edirne (northwest at the border of Greece and Bulgaria)(717) | both | 717 | 1.7% | 0.75% | 2.65% | 1.64% | 0.8% | Otkun, M., M. S. Erdogan, et al. (2005). "Exposure time to hepatitis B virus and associated risk factors among children in Edirne, Turkey." <i>Epidemiol Infect</i> 133(3): 509-16. | 15962558 | 671 |
| Turkey | Akcan, 2006* | Duzce (northern Turkey) | Healthy persons; control group for vitiligo patients Duzce (northern Turkey) (100) | both | 100 | 7.0% | 2.00% | 12.00% | 0.58% | 0.0% | Akcan, Y., A. Kavak, et al. (2006). "The low seropositivity of hepatitis B virus in vitiligo patients." <i>J Eur Acad Dermatol Venereol</i> 20(1): 110-1. | 16405627 | 674 |
| Turkey | Sacar, 2006 | Acipayam; county of Denizli province in SW Aegean part of Turkey | Randomly selected subjects admitted to primary health care centers Jan-Feb 2006; Acipayam; county of Denizli province in SW Aegean part (480) | both | 480 | 10.6% | 7.85% | 13.35% | 1.09% | 0.1% | Sacar, S., A. Asan, et al. (2007). "[HbsAg seroprevalence in a county in Turkey where tobacco labours are prevalent]." <i>Mikrobiyol Bul</i> 41(1): 163-4. | 17427568 | 680 |
| total studies | | | | | 76 | 184,988 | | | 100.00% | 100.00% | | | |

* indicates publication year; survey year not reported

| | |
|---------|----|
| males | 17 |
| females | 26 |
| both | 33 |

Table 26: Summary of Surveys Included in Meta-Analysis: Armenia

Western Asia

| Country | Study (survey year*) | Region | Population and sampling method | Sex | Sample (n) | HBsAg | | | RE weight (%) | FE weight (%) | Reference | Access No | Ref No. |
|---------|-------------------------|----------------|--|---------------|------------|--------------|--------|--------------|---------------|---------------|--|-----------|---------|
| | | | | | | positive (%) | 95% CI | upper 95% CI | | | | | |
| Armenia | Demirchyan, 1998 | | 27% of the pregnant women registered in 1998; official data from Statistical and Analytical Materials of the Republician Center of Hygiene and Epidemiologic Control; no selection described; "probably an underestimate" (32,676) | females | 8,790 | 0.2% | 0.11% | 0.29% | 40.67% | 75.9% | Demirchyan a, Mirzoyan L, and Thompson M. (2000) Synthesis of the existing data on hepatitis B in Armenia. Center for Health Services Research, American University of Armenia, March 2000, Yerevan Armenia | NPM | 591 |
| Armenia | Demirchyan, 1999 | | 19% of the pregnant women registered in 1999; official data from Statistical and Analytical Materials of the Republician Center of Hygiene and Epidemiologic Control; no selection described; "probably an underestimate" (33,396) | females | 6,455 | 0.5% | 0.33% | 0.67% | 38.34% | 22.4% | Demirchyan a, Mirzoyan L, and Thompson M. (2000) Synthesis of the existing data on hepatitis B in Armenia. Center for Health Services Research, American University of Armenia, March 2000, Yerevan Armenia | NPM | 591 |
| Armenia | Rein, 2006-2008 | migrants to US | Refugees arriving in the US 2006-2008; information from states with an active refugee health coordinator; data on most recently available 12-month continuous period prior to August 200 (74) | both | 74 | 1.4% | -1.28% | 4.08% | 1.86% | 0.1% | Rein DB, Lesesne SB, O'Fallon A, Weinbaum CM (2009) Prevalence of hepatitis B surface antigen among refugees entering the United States between 2006 and 2008. Hepatology. 2010 Feb;51(2):431-4 | 19902482 | 592 |
| Armenia | Melik-Andreasyan, 1998* | | Healthy persons; convenience sampling methodology utilizing frozen serum collected over the past several years for other purposes (1,340) | both | 1,340 | 1.4% | 0.77% | 2.03% | 19.12% | 1.7% | Melik-Andreasyan GG, Alexanyan YT, Beglaryan DM, Gayet-Mengelle C, Puel, J (1998) Hepatitis B and C markers among population of Armenia. New Aspects in Hepatology and Gastroenterology, International Falk Workshop, Tbilisi, Georgia, 1998 | NPM | 593 |
| | | | | total studies | 4 | 16,659 | | | | 100.00% | 100.00% | | |
| | | | | males | 0 | | | | | | | | |
| | | | | females | 2 | | | | | | | | |
| | | | | both | 2 | | | | | | | | |

* indicates publication year; survey year not reported

Table 27: Summary of Surveys Included in Meta-Analysis: Syria Western Asia

| Country | Study (survey year*) | Region | Population and sampling method | Sex | Sample (n) | HBsAg | | RE weight (%) | FE weight (%) | Reference | Access No | Ref No. | |
|---------|----------------------|----------|---|------|------------|--------------|--------------|---------------|---------------|-----------|---|---------|-----|
| | | | | | | positive (%) | lower 95% CI | | | | | | |
| Syria | Karim, 2004 | national | Karim 2004, general population; study designed by Central Bureau of Statistics used a randomized cluster sample representing all the governates (3,168) | both | 3,168 | 5.6% | 4.82% | 6.42% | 100.00% | 100.0% | Karim M and Lahham H (2008) Prevalence of viral hepatitis B and C in Syria. Syrian Epidemiological Bulletin (World Health Organization) 2(3): 4 | NPM | 706 |
| | | | total studies | 1 | 3,168 | | | | 100.00% | 100.00% | | | |
| | | | males | 0 | | | | | | | | | |
| | | | females | 0 | | | | | | | | | |
| | | | both | 1 | | | | | | | | | |

* indicates publication year; survey year not reported

Table 28: Summary of Surveys Included in Meta-Analysis: Jordan Western Asia

| Country | Study (survey year*) | Region | Population and sampling method | Sex | Sample (n) | HBsAg | | | RE weight (%) | FE weight (%) | Reference | Access No | Ref No. |
|---------|----------------------|-------------------|--|---------|---------------|--------------|--------------|--------------|---------------|---------------|--|-----------|---------|
| | | | | | | positive (%) | lower 95% CI | upper 95% CI | | | | | |
| Jordan | Toukan, 1987* | Amman | Residents of Amman; urban residents were asked to volunteer when they visited Jordan University Hospital in Amman; exclude patients to GI or liver clinics and those visiting relatives in hospital; males (241) | males | 155 | 8.4% | 4.03% | 12.75% | 10.93% | 4.1% | Toukan, A. U. (1987). "Hepatitis B virus infection in urban residents of Jordan with particular reference to socioeconomic factors." Trop Gastroenterol 8(3): 161-6. | 3424443 | 613 |
| Jordan | Said, 2001* | Amman | Healthy controls for patients with schizophrenia; no selection described; males (106) | males | 106 | 3.8% | 0.14% | 7.40% | 12.05% | 6.0% | Said, W. M., R. Saleh, et al. (2001). "Prevalence of hepatitis B virus among chronic schizophrenia patients." East Mediterr Health J 7(3): 526-30. | 12690775 | 615 |
| Jordan | Toukan, 1987* | Amman and Al-Salt | Residents of Amman; urban residents were asked to volunteer when they visited Jordan University Hospital in Amman; exclude patients to GI or liver clinics and those visiting relatives in hospital; females (241) | females | 86 | 4.7% | 0.20% | 9.10% | 10.80% | 4.0% | Toukan, A. U. (1987). "Hepatitis B virus infection in urban residents of Jordan with particular reference to socioeconomic factors." Trop Gastroenterol 8(3): 161-6. | 3424443 | 613 |
| Jordan | Said, 2001* | Amman | Healthy controls for patients with schizophrenia; no selection described; females (86) | females | 86 | 1.2% | -1.10% | 3.42% | 13.98% | 15.4% | Said, W. M., R. Saleh, et al. (2001). "Prevalence of hepatitis B virus among chronic schizophrenia patients." East Mediterr Health J 7(3): 526-30. | 12690775 | 615 |
| Jordan | Batayneh, 2002* | Amman | Pregnant women attending antenatal clinic (1,000) | females | 1,000 | 4.3% | 3.04% | 5.56% | 15.05% | 49.9% | Batayneh, N. and S. Bdour (2002). "Risk of perinatal transmission of hepatitis B virus in Jordan." Infect Dis Obstet Gynecol 10(3): 127-32. | 12625968 | 614 |
| Jordan | Toukan, 1985 | central | Residents of village of Mkawar in central Jordan; selection of villages based on geographic dispersion and relationship of team with local physicians; one-half to most of houses in villages were contacted (194) | both | 194 | 5.7% | 2.44% | 8.96% | 12.59% | 7.4% | Toukan, A. U., Z. K. Sharaiha, et al. (1990). "The epidemiology of hepatitis B virus among family members in the Middle East." Am J Epidemiol 132(2): 220-32. | 2372003 | 616 |
| Jordan | Toukan, 1985 | central | Residents of village of Arafah and Sinfaha in central Jordan; selection of villages based on geographic dispersion and relationship of team with local physicians; one-half to most of houses in villages were contacted (336) | both | 336 | 12.8% | 9.23% | 16.37% | 12.13% | 6.2% | Toukan, A. U., Z. K. Sharaiha, et al. (1990). "The epidemiology of hepatitis B virus among family members in the Middle East." Am J Epidemiol 132(2): 220-32. | 2372003 | 616 |
| Jordan | Toukan, 1985 | central | Residents of village of Saba Assir in central Jordan; selection of villages based on geographic dispersion and relationship of team with local physicians; one-half to most of houses in villages were contacted (344) | both | 344 | 11.3% | 7.95% | 14.65% | 12.47% | 7.0% | Toukan, A. U., Z. K. Sharaiha, et al. (1990). "The epidemiology of hepatitis B virus among family members in the Middle East." Am J Epidemiol 132(2): 220-32. | 2372003 | 616 |
| | | | | | total studies | 8 | 2,307 | | | 100.00% | 100.00% | | |
| | | | | | males | 2 | | | | | | | |
| | | | | | females | 3 | | | | | | | |
| | | | | | both | 3 | | | | | | | |

* indicates publication year; survey year not reported

| Table 29: Summary of Surveys Included in Meta-Analysis: Saudi Arabia | | | | | | | | | | | | Western Asia | |
|--|----------------------|--|--|---------|------------|--------------|--------------|--------------|---------------|---------------|--|--------------|---------|
| Country | Study (survey year*) | Region | Population and sampling method | Sex | Sample (n) | HBsAg | | | RE weight (%) | FE weight (%) | Reference | Access No | Ref No. |
| | | | | | | positive (%) | lower 95% CI | upper 95% CI | | | | | |
| Saudi Arabia | Talukder, 1982 | Eastern province | Healthy ambulatory men living in the Eastern Province; no selection described (3,588) | males | 3,588 | 9.5% | 8.54% | 10.46% | 3.07% | 1.4% | Talukder, M. A., R. Gilmore, et al. (1982). "Prevalence of hepatitis B surface antigen among male Saudi Arabians." <i>J Infect Dis</i> 146(3): 446. | 7108285 | 633 |
| Saudi Arabia | Arya, 1984 | Gizan area | General population; voluntary donors, students, pregnant women and those seeking treatment for minor ailments male (286) | males | 286 | 19.9% | 15.27% | 24.53% | 1.35% | 0.1% | Arya, S. C., S. J. Ashraf, et al. (1985). "Hepatitis B virus in Gizan, Saudi Arabia." <i>J Med Virol</i> 17(3): 267-74. | 4067589 | 630 |
| Saudi Arabia | Parande, 1984-1985 | seaport town, Gizan | Infants and children seeking treatment for minor ailments at Gizan General Hospital; male (193) | males | 193 | 9.4% | 5.28% | 13.52% | 1.54% | 0.1% | Parande, C. M., S. C. Arya, et al. (1986). "Hepatitis B virus among Saudi children in Gizan, Saudi Arabia." <i>Infection</i> 14(5): 223-5. | 3793237 | 629 |
| Saudi Arabia | el-Hazmi, 1989 | central | Apparently healthy school children, blood donors, and volunteers and outpatients attending primary health care units associated with MOH hospitals and dispensaries in different regions; CENTRAL SA: males (279) | males | 279 | 22.6% | 17.69% | 27.51% | 1.26% | 0.1% | el-Hazmi, M. A. (1989). "Hepatitis B virus in Saudi Arabia." <i>J Trop Med Hyg</i> 92(1): 56-61. | 2918579 | 627 |
| Saudi Arabia | el-Hazmi, 1989 | southwestern provinces Jaizan and Najran | Apparently healthy school children, blood donors, and volunteers and outpatients attending primary health care units associated with MOH hospitals and dispensaries in different regions; SOUTHWEST SA; males (558) | males | 558 | 17.6% | 14.44% | 20.76% | 1.97% | 0.1% | el-Hazmi, M. A. (1989). "Hepatitis B virus in Saudi Arabia." <i>J Trop Med Hyg</i> 92(1): 56-61. | 2918579 | 627 |
| Saudi Arabia | el-Hazmi, 1989 | northwestern | Apparently healthy school children, blood donors, and volunteers and outpatients attending primary health care units associated with MOH hospitals and dispensaries in different regions; NORTHWESTERN SA; males (281) | males | 281 | 17.8% | 13.33% | 22.27% | 1.41% | 0.1% | el-Hazmi, M. A. (1989). "Hepatitis B virus in Saudi Arabia." <i>J Trop Med Hyg</i> 92(1): 56-61. | 2918579 | 627 |
| Saudi Arabia | el-Hazmi, 1989 | eastern | Apparently healthy blood donors, school children, volunteers and outpatients attending primary health care units associated with MOH hospitals and dispensaries in different regions; EASTERN SA; males (103) | males | 103 | 9.7% | 3.98% | 15.42% | 1.03% | 0.0% | el-Hazmi, M. A. (1989). "Hepatitis B virus in Saudi Arabia." <i>J Trop Med Hyg</i> 92(1): 56-61. | 2918579 | 627 |
| Saudi Arabia | al-Faleh, 1989-1990 | various | Children 1-10 yrs old; multistage random sampling in multiple regions; one or two urban areas and an equal number of rural areas were randomly selected; males (2,458) | males | 2,458 | 7.3% | 6.27% | 8.33% | 3.05% | 1.2% | al-Faleh, F. Z., E. A. Ayoola, et al. (1992). "Seroepidemiology of hepatitis B virus infection in Saudi Arabian children: a baseline survey for mass vaccination against hepatitis B." <i>J Infect</i> 24(2): 197-206. | 1533236 | 624 |
| Saudi Arabia | Ayoola, 1995-1996 | Jizan region in the South-Western area | Saudi volunteers recruited from community; "include the strategy probability proportionate to size"; male (752) | males | 752 | 4.3% | 2.82% | 5.70% | 2.87% | 0.6% | Ayoola, A. E., M. S. Tobaigy, et al. (2003). "The decline of hepatitis B viral infection in South-Western Saudi Arabia." <i>Saudi Med J</i> 24(9): 991-5. | 12973485 | 639 |
| Saudi Arabia | al-Faleh, 1995* | Gizan, southern SA | Randomly selected general population Gizan area; clusters of household selected from recent maps and household within the cluster randomly selected and visited by survey team; males (371) | males | 371 | 9.4% | 6.46% | 12.40% | 2.06% | 0.1% | al-Faleh, F. Z., S. Ramia, et al. (1995). "Profile of hepatitis C virus and the possible modes of transmission of the virus in the Gizan area of Saudi Arabia: a community-based study." <i>Ann Trop Med Parasitol</i> 89(4): 431-7. | 7487230 | 634 |
| Saudi Arabia | Memish, 1997-1998 | all | Saudi Arabian National Guard soldiers who donated blood (443) | males | 443 | 17.8% | 14.24% | 21.36% | 1.78% | 0.1% | Memish, Z. A., G. A. Oni, et al. (2001). "The cost-saving potential of prevaccination antibody tests when implementing a mass immunization program." <i>Mil Med</i> 166(1): 11-3. | 11197089 | 635 |
| Saudi Arabia | Basalamah, 1979-1982 | 0 | Pregnant women; all first-trimester pregnant Saudi women attending antenatal clinics were screened (5,000) | females | 5,000 | 2.8% | 2.34% | 3.26% | 3.22% | 6.2% | Basalamah, A. H., F. Serebour, et al. (1984). "Materno-foetal transmission of hepatitis B in Saudi Arabia." <i>J Infect</i> 8(3): 200-4. | 6736663 | 632 |

| | | | | | | | | | | | | | |
|--------------|--------------------|--|--|---------|-------|-------|--------|--------|-------|------|---|----------|-----|
| Saudi Arabia | Ramia, 1982-1984 | Riyadh | Pregnant women; routine screening at prenatal clinics at King Khalid and King Abdel Aziz Hospitals Riyadh (3,020) | females | 3,020 | 3.9% | 3.25% | 4.63% | 3.16% | 2.7% | Ramia, S., F. Abdul-Jabbar, et al. (1984). "Vertical transmission of hepatitis B surface antigen in Saudi Arabia." <i>Ann Trop Paediatr</i> 4(4): 213-6. | 6210036 | 631 |
| Saudi Arabia | Kiel, 1984 | Riyadh | Pregnant women at King Fahad National Guard Hospital; each women screened on first hospital encounter (881) | females | 881 | 3.8% | 2.54% | 5.06% | 2.95% | 0.8% | Kiel, F. W. (1991). "Increasing compliance over five years in a hepatitis B infant immunization program in Saudi Arabia." <i>Ann Saudi Med</i> 11(4): 439-42. | 17590779 | 637 |
| Saudi Arabia | Arya, 1984 | Gizan area | General population; voluntary donors, students, pregnant women and those seeking treatment for minor ailments female (366) | females | 366 | 9.3% | 6.32% | 12.28% | 2.06% | 0.1% | Arya, S. C., S. J. Ashraf, et al. (1985). "Hepatitis B virus in Gizan, Saudi Arabia." <i>J Med Virol</i> 17(3): 267-74. | 4067589 | 630 |
| Saudi Arabia | Parande, 1984-1985 | seaport town, Gizan | Infants and children seeking treatment for minor ailments at Gizan General Hospital; females (132) | females | 132 | 13.6% | 7.75% | 19.45% | 1.00% | 0.0% | Parande, C. M., S. C. Arya, et al. (1986). "Hepatitis B virus among Saudi children in Gizan, Saudi Arabia." <i>Infection</i> 14(5): 223-5. | 3793237 | 629 |
| Saudi Arabia | Kiel, 1985 | Riyadh | Pregnant women at King Fahad National Guard Hospital; each women screened on first hospital encounter (2,174) | females | 2,174 | 3.8% | 3.00% | 4.60% | 3.13% | 2.0% | Kiel, F. W. (1991). "Increasing compliance over five years in a hepatitis B infant immunization program in Saudi Arabia." <i>Ann Saudi Med</i> 11(4): 439-42. | 17590779 | 637 |
| Saudi Arabia | Kiel, 1986 | Riyadh | Pregnant women at King Fahad National Guard Hospital; each women screened on first hospital encounter (2,830) | females | 2,830 | 3.8% | 3.10% | 4.50% | 3.16% | 2.6% | Kiel, F. W. (1991). "Increasing compliance over five years in a hepatitis B infant immunization program in Saudi Arabia." <i>Ann Saudi Med</i> 11(4): 439-42. | 17590779 | 637 |
| Saudi Arabia | Kiel, 1987 | Riyadh | Pregnant women at King Fahad National Guard Hospital; each women screened on first hospital encounter (3,332) | females | 3,332 | 3.8% | 3.15% | 4.45% | 3.17% | 3.1% | Kiel, F. W. (1991). "Increasing compliance over five years in a hepatitis B infant immunization program in Saudi Arabia." <i>Ann Saudi Med</i> 11(4): 439-42. | 17590779 | 637 |
| Saudi Arabia | Arya, 1987-1989 | Riyadh area | Healthy pregnant women at King Faha Central Hospital (152) | females | 152 | 0.7% | -0.63% | 1.95% | 2.94% | 0.8% | Arya, S. C., V. P. Pathak, et al. (1990). "Type 2 hepatitis B virus (HBV-2) in carriers and patients with malignancy in Saudi Arabia." <i>Infection</i> 18(4): 215-8. | 2170276 | 625 |
| Saudi Arabia | Kiel, 1988 | Riyadh | Pregnant women at King Fahad National Guard Hospital; each women screened on first hospital encounter (3,787) | females | 3,787 | 3.8% | 3.19% | 4.41% | 3.18% | 3.5% | Kiel, F. W. (1991). "Increasing compliance over five years in a hepatitis B infant immunization program in Saudi Arabia." <i>Ann Saudi Med</i> 11(4): 439-42. | 17590779 | 637 |
| Saudi Arabia | el-Hazmi, 1989 | central | Apparently healthy blood donors, school children, volunteers and outpatients attending primary health care units associated with MOH hospitals and dispensaries in different regions; CENTRAL SA: females (280) | females | 280 | 15.7% | 11.44% | 19.96% | 1.48% | 0.1% | el-Hazmi, M. A. (1989). "Hepatitis B virus in Saudi Arabia." <i>J Trop Med Hyg</i> 92(1): 56-61. | 2918579 | 627 |
| Saudi Arabia | el-Hazmi, 1989 | southwestern provinces Jaizan and Najran | Apparently healthy blood donors, school children, volunteers and outpatients attending primary health care units associated with MOH hospitals and dispensaries in different regions; SOUTHWEST SA: females (408) | females | 408 | 19.6% | 15.75% | 23.45% | 1.65% | 0.1% | el-Hazmi, M. A. (1989). "Hepatitis B virus in Saudi Arabia." <i>J Trop Med Hyg</i> 92(1): 56-61. | 2918579 | 627 |
| Saudi Arabia | el-Hazmi, 1989 | northwestern | Apparently healthy blood donors, school children, volunteers and outpatients; northwestern SA apparently healthy blood donors, school children, volunteers and outpatients attending primary health care units associated with MOH hospitals and dispensaries in different regions; NORTHWESTERN SA: females (148) | females | 148 | 14.2% | 8.58% | 19.82% | 1.06% | 0.0% | el-Hazmi, M. A. (1989). "Hepatitis B virus in Saudi Arabia." <i>J Trop Med Hyg</i> 92(1): 56-61. | 2918579 | 627 |
| Saudi Arabia | el-Hazmi, 1989 | eastern | Apparently healthy blood donors, school children, volunteers and outpatients attending primary health care units associated with MOH hospitals and dispensaries in different regions; EASTERN SA: females (93) | females | 93 | 8.6% | 2.90% | 14.30% | 1.04% | 0.0% | el-Hazmi, M. A. (1989). "Hepatitis B virus in Saudi Arabia." <i>J Trop Med Hyg</i> 92(1): 56-61. | 2918579 | 627 |

| | | | | | | | | | | | | | |
|--------------|----------------------|--|---|---------|-------|-------|--------|--------|-------|------|--|----------|-----|
| Saudi Arabia | al-Faleh, 1989-1990 | various | Children 1-10 yrs old; multistage random sampling in multiple regions; one or two urban areas and an equal number of rural areas were randomly selected; females (4,575) | females | 2,117 | 6.0% | 4.99% | 7.01% | 3.06% | 1.3% | al-Faleh, F. Z., E. A. Ayoola, et al. (1992). "Seroepidemiology of hepatitis B virus infection in Saudi Arabian children: a baseline survey for mass vaccination against hepatitis B." <i>J Infect</i> 24(2): 197-206. | 1533236 | 624 |
| Saudi Arabia | Fakunle, 1991* | Riyadh | Pregnant Saudi women; consecutive women receiving antenatal care at Maternity and Children's Hospital Riyadh (511) | females | 511 | 4.7% | 2.86% | 6.54% | 2.67% | 0.4% | Fakunle, Y. M., M. Al-Mofarreh, et al. (1991). "Prevalence of antibodies to hepatitis C virus in Saudi and expatriate women in Riyadh, Saudi Arabia." <i>Ann Saudi Med</i> 11(5): 494-6. | 17590780 | 643 |
| Saudi Arabia | Ahmed, 1992* | Almadinah Almounawarah | Young Saudi women, 92 with gallstones, 91 controls; drawn randomly from inpatients and outpatients seen at Ohud Hospital and King Fahd Hospital (122) | females | 122 | 2.5% | -0.29% | 5.21% | 2.18% | 0.2% | Ahmed, A. F., O. M. El-Hassan, et al. (1992). "Risk factors for gallstone formation in young Saudi women: A case control study." <i>Ann Saudi Med</i> 12(4): 395-9. | 17587012 | 636 |
| Saudi Arabia | Ayoola, 1995-1996 | Jizan region in the South-Western area | Saudi volunteers recruited from community; "include the strategy probability proportionate to size"; female (420) | females | 420 | 3.8% | 1.98% | 5.64% | 2.67% | 0.4% | Ayoola, A. E., M. S. Tobaigy, et al. (2003). "The decline of hepatitis B viral infection in South-Western Saudi Arabia." <i>Saudi Med J</i> 24(9): 991-5. | 12973485 | 639 |
| Saudi Arabia | al-Faleh, 1995* | Gizan, southern SA | Randomly selected general population Gizan area; clusters of household selected from recent maps and household within the cluster randomly selected and visited by survey team; females (424) | females | 424 | 6.1% | 3.85% | 8.41% | 2.43% | 0.2% | al-Faleh, F. Z., S. Ramia, et al. (1995). "Profile of hepatitis C virus and the possible modes of transmission of the virus in the Gizan area of Saudi Arabia: a community-based study." <i>Ann Trop Med Parasitol</i> 89(4): 431-7. | 7487230 | 634 |
| Saudi Arabia | Al-Mazrou, 2002 | 5 regions | Pregnant women from five regions; no selection (2,664) | females | 2,664 | 2.5% | 1.87% | 3.05% | 3.19% | 3.7% | Al-Mazrou, Y. Y., M. Al-Jeffri, et al. (2004). "Screening of pregnant Saudi women for hepatitis B surface antigen." <i>Ann Saudi Med</i> 24(4): 265-9. | 15387491 | 641 |
| Saudi Arabia | Alrowaily, 2005-2006 | Riyadh | Pregnant women; at the ante-natal clinic of a tertiary care center (755) | females | 755 | 1.6% | 0.70% | 2.50% | 3.10% | 1.6% | Alrowaily, M. A., M. A. Abolfotouh, et al. (2008). "Hepatitis B virus sero-prevalence among pregnant females in Saudi Arabia." <i>Saudi J Gastroenterol</i> 14(2): 70-2. | 19568519 | 640 |
| Saudi Arabia | Ashraf, 1986 | Gizan | Gizan residents; samples from school children (28%), blood donors (14%), pregnant women (11%), and outpatients (48%) seeking treatment for minor ailments (608) | both | 608 | 17.3% | 14.29% | 20.31% | 2.04% | 0.1% | Ashraf, S. J., S. C. Arya, et al. (1986). "Frequencies of hepatitis B, delta and HTLV-III virus markers in Saudi Arabia." <i>Liver</i> 6(2): 73-7. | 3461233 | 628 |
| Saudi Arabia | el-Hazmi, 1989 | Riyadh | Controls for pts with thalassemia and SSD from Riyadh; age and sex-matched controls; no further info (120) | both | 120 | 5.8% | 1.64% | 10.02% | 1.51% | 0.1% | el-Hazmi, M. A. and S. Ramia (1989). "Frequencies of hepatitis B, delta and human immune deficiency virus markers in multitransfused Saudi patients with thalassaemia and sickle-cell disease." <i>J Trop Med Hyg</i> 92(1): 1-5. | 2918572 | 626 |
| Saudi Arabia | el-Hazmi, 1989 | Jaizan | Controls for pts with thalassemia and SSD from Jaizan; age and sex-matched controls; no further info (85) | both | 85 | 15.3% | 7.65% | 22.95% | 0.67% | 0.0% | el-Hazmi, M. A. and S. Ramia (1989). "Frequencies of hepatitis B, delta and human immune deficiency virus markers in multitransfused Saudi patients with thalassaemia and sickle-cell disease." <i>J Trop Med Hyg</i> 92(1): 1-5. | 2918572 | 626 |
| Saudi Arabia | el-Hazmi, 1989 | Khaiber | Controls for pts with thalassemia and SSD from Khaiber; age and sex-matched controls; no further info (80) | both | 80 | 21.3% | 12.33% | 30.27% | 0.52% | 0.0% | el-Hazmi, M. A. and S. Ramia (1989). "Frequencies of hepatitis B, delta and human immune deficiency virus markers in multitransfused Saudi patients with thalassaemia and sickle-cell disease." <i>J Trop Med Hyg</i> 92(1): 1-5. | 2918572 | 626 |
| Saudi Arabia | el-Hazmi, 1989 | Al-Hofouf | Controls for pts with thalassemia and SSD from Al-Hofouf; age and sex-matched controls; no further info (85) | both | 85 | 9.4% | 3.20% | 15.62% | 0.92% | 0.0% | el-Hazmi, M. A. and S. Ramia (1989). "Frequencies of hepatitis B, delta and human immune deficiency virus markers in multitransfused Saudi patients with thalassaemia and sickle-cell disease." <i>J Trop Med Hyg</i> 92(1): 1-5. | 2918572 | 626 |

| | | | | | | | | | | | | | |
|--------------|---------------------|--|---|------|---------------|------|---------|--------|---------|---------|--|----------|-----|
| Saudi Arabia | al Nasser, 1992* | Al Baha area | 180 pregnant women and 200 male first-time blood donors (380) | both | 380 | 9.2% | 6.30% | 12.12% | 2.09% | 0.2% | al Nasser, M. N., M. A. al Mugeiren, et al. (1992). "Seropositivity to hepatitis C virus in Saudi haemodialysis patients." <i>Vox Sang</i> 62(2): 94-7. | 1325714 | 623 |
| Saudi Arabia | Ayoola, 1995-1996 | Jizan region in the South-Western area | Consecutive patients tested during respective visits to the clinics or admission during the study period; King Fahd Hospital (4,692) | both | 4,692 | 9.7% | 8.87% | 10.57% | 3.11% | 1.8% | Ayoola, A. E., M. S. Tobaigy, et al. (2003). "The decline of hepatitis B viral infection in South-Western Saudi Arabia." <i>Saudi Med J</i> 24(9): 991-5. | 12973485 | 639 |
| Saudi Arabia | Al-Traif, 1996-1997 | 0 | Patients at primary care centers (19,250) | both | 19,250 | 4.1% | 3.82% | 4.38% | 3.24% | 16.4% | Al-Traif, I., A. Ali, et al. (2004). "Prevalence of hepatitis delta antibody among HBsAg carriers in Saudi Arabia." <i>Ann Saudi Med</i> 24(5): 343-4. | 15573844 | 642 |
| Saudi Arabia | Memish, 1999 | all | National Guard personnel and their extended families; retrospective review of sera tested for HBsAg in King Fahad national Guard Hospital; a tertiary referral hospital serving primarily the SA Natl Guard and dependents (19,909) | both | 19,909 | 4.9% | 4.59% | 5.19% | 3.24% | 14.3% | Memish, Z., L. Qasim, et al. (2003). "Pattern of viral hepatitis infection in a selected population from Saudi Arabia." <i>Mil Med</i> 168(7): 565-8. | 12901469 | 638 |
| Saudi Arabia | Memish, 2000 | all | National Guard personnel and their extended families; retrospective review of sera tested for HBsAg in King Fahad national Guard Hospital; a tertiary referral hospital serving primarily the SA Natl Guard and dependents (16,174) | both | 16,174 | 5.8% | 5.45% | 6.17% | 3.23% | 9.9% | Memish, Z., L. Qasim, et al. (2003). "Pattern of viral hepatitis infection in a selected population from Saudi Arabia." <i>Mil Med</i> 168(7): 565-8. | 12901469 | 638 |
| Saudi Arabia | Memish, 2001 | all | National Guard personnel and their extended families; retrospective review of sera tested for HBsAg in King Fahad national Guard Hospital; a tertiary referral hospital serving primarily the SA Natl Guard and dependents (25,472) | both | 25,472 | 3.8% | 3.57% | 4.03% | 3.25% | 23.3% | Memish, Z., L. Qasim, et al. (2003). "Pattern of viral hepatitis infection in a selected population from Saudi Arabia." <i>Mil Med</i> 168(7): 565-8. | 12901469 | 638 |
| Saudi Arabia | Ayoola, 2002* | Gizan area | Healthy controls for dialysis patients, no selection described; none had hx or evidence of LD, no previous blood transfusion or donation to blood bank (400) | both | 400 | 7.3% | 4.71% | 9.79% | 2.29% | 0.2% | Ayoola, E. A., M. A. Want, et al. (2002). "Hepatitis E virus infection in haemodialysis patients: a case-control study in Saudi Arabia." <i>J Med Virol</i> 66(3): 329-34. | 11793384 | 644 |
| | | | | | total studies | 44 | 126,183 | | 100.00% | 100.00% | | | |
| | | | | | males | 11 | | | | | | | |
| | | | | | females | 21 | | | | | | | |
| | | | | | both | 12 | | | | | | | |

* indicates publication year; survey year not reported

| Table 30: Summary of Surveys Included in Meta-Analysis: Yemen | | | | | | | | | | | | Western Asia | |
|---|----------------------|-------------|---|---------|------------|--------------|--------------|--------------|---------------|---------------|---|--------------|---------|
| Country | Study (survey year*) | Region | Population and sampling method | Sex | Sample (n) | HBsAg | | | RE weight (%) | FE weight (%) | Reference | Access No | Ref No. |
| | | | | | | positive (%) | lower 95% CI | upper 95% CI | | | | | |
| Yemen | Al-Nassiri, 1999 | Sana'a | Volunteers for screening; individuals who presented at Sana'a Central Health Laboratory in response to a campaign to control HBV; males (1,604) | males | 1,604 | 8.7% | 7.29% | 10.05% | 10.67% | 37.2% | Al-Nassiri, K. A. and Y. A. Raja'a (2001). "Hepatitis B infection in Yemenis in Sana'a: pattern and risk factors." East Mediterr Health J 7(1-2): 147-52. | 12615378 | 711 |
| Yemen | Abdel Raheem, 1991* | Sana'a City | Pregnant women; chosen randomly from those admitted to the labour ward of Al-Thawra general hospital in Sana'a City (130) | females | 130 | 15.4% | 9.20% | 21.60% | 7.25% | 1.8% | Abdel Raheem, S. M., T. S. Abou-Lohum, et al. (1991). "Hepatitis B infection in Sana'a City, Republic of Yemen. Prevalence among pregnant women and materno-foetal transmission." J Egypt Public Health Assoc 66(5-6): 491-503. | 1797962 | 707 |
| Yemen | el Guneid, 1993* | Taiz | Pregnant women; consecutive women attending antenatal clinic (241) | females | 241 | 16.6% | 11.90% | 21.30% | 8.47% | 3.2% | el Guneid, A. M., A. A. Gunaid, et al. (1993). "Prevalence of hepatitis B, C, and D virus markers in Yemeni patients with chronic liver disease." J Med Virol 40(4): 330-3. | 8228926 | 709 |
| Yemen | Al-Nassiri, 1999 | Sana'a | Volunteers for screening; individuals who presented at Sana'a Central Health Laboratory in response to a campaign to control HBV; females (717) | females | 717 | 4.6% | 3.07% | 6.13% | 10.60% | 30.0% | Al-Nassiri, K. A. and Y. A. Raja'a (2001). "Hepatitis B infection in Yemenis in Sana'a: pattern and risk factors." East Mediterr Health J 7(1-2): 147-52. | 12615378 | 711 |
| Yemen | Al-Shamahy, 1999 | Sana'a | Healthy new mothers; systematic random sample of every 5th women from register of Family Planning Center; only those with no illness and provided consent enrolled (544) | females | 544 | 13.2% | 10.36% | 16.04% | 9.88% | 8.7% | Al-Shamahy, H. (2000). "Prevalence of hepatitis B surface antigen and risk factors of HBV infection in a sample of healthy mothers and their infants in Sana'a, Yemen." Ann Saudi Med 20(5-6): 464-6. | 17341920 | 710 |
| Yemen | Scott, 1988 | Sana'a | General population Sana'a; persons presenting to schools, community centers, outpatient clinics and labs"; excluded pts with jaundice or obvious liver disease; "no groups at high risk for STDs included (135) | both | 135 | 16.3% | 10.07% | 22.53% | 7.23% | 1.8% | Scott, D. A., J. P. Burans, et al. (1990). "A seroepidemiological survey of viral hepatitis in the Yemen Arab Republic." Trans R Soc Trop Med Hyg 84(2): 288-91. | 2389323 | 708 |
| Yemen | Scott, 1988 | Hajja | General population Hajja; persons presenting to schools, community centers, outpatient clinics and labs"; excluded pts with jaundice or obvious liver disease; "no groups at high risk for STDs included (253) | both | 253 | 15.0% | 10.60% | 19.40% | 8.71% | 3.6% | Scott, D. A., J. P. Burans, et al. (1990). "A seroepidemiological survey of viral hepatitis in the Yemen Arab Republic." Trans R Soc Trop Med Hyg 84(2): 288-91. | 2389323 | 708 |
| Yemen | Scott, 1988 | Hodeidah | General population Hodeidah; persons presenting to schools, community centers, outpatient clinics and labs"; excluded pts with jaundice or obvious liver disease; "no groups at high risk for STDs included (251) | both | 251 | 9.6% | 5.96% | 13.24% | 9.30% | 5.3% | Scott, D. A., J. P. Burans, et al. (1990). "A seroepidemiological survey of viral hepatitis in the Yemen Arab Republic." Trans R Soc Trop Med Hyg 84(2): 288-91. | 2389323 | 708 |
| Yemen | Scott, 1988 | Taiz | General population Taiz; persons presenting to schools, community centers, outpatient clinics and labs"; excluded pts with jaundice or obvious liver disease; "no groups at high risk for STDs included(240) | both | 240 | 11.7% | 7.63% | 15.77% | 8.97% | 4.3% | Scott, D. A., J. P. Burans, et al. (1990). "A seroepidemiological survey of viral hepatitis in the Yemen Arab Republic." Trans R Soc Trop Med Hyg 84(2): 288-91. | 2389323 | 708 |
| Yemen | Al-Moslih, 2001* | Sana'a | Healthy subjects with no history of liver disease; no selection described (120) | both | 120 | 12.7% | 6.74% | 18.66% | 7.44% | 2.0% | Al-Moslih, M. I. and M. A. Al-Huraibi (2001). "Prevalence of hepatitis C virus among patients with liver disease in the Republic of Yemen." East Mediterr Health J 7(4-5): 771-8. | 15350487 | 713 |
| Yemen | Sallam, 2003* | Sana'a | African minority residents; subjects were randomly selected after informed consent by house to house visits by outreach teams (97) | both | 97 | 19.6% | 11.70% | 27.50% | 5.99% | 1.1% | Sallam, T. A., C. Y. Tong, et al. (2003). "Prevalence of blood-borne viral hepatitis in different communities in Yemen." Epidemiol Infect 131(1): 771-5. | 12972790 | 712 |

| | | | | | | | | | | | | | |
|-------|---------------|----------------|---|---------------|----|-------|--------|---------|-------|---------|---|----------|-----|
| Yemen | Sallam, 2003* | Soqatra Island | Residents of Soqatra Island; subjects were randomly selected after informed consent by house to house visits by outreach teams (99) | both | 99 | 26.3% | 17.63% | 34.97% | 5.49% | 0.9% | Sallam, T. A., C. Y. Tong, et al. (2003). "Prevalence of blood-borne viral hepatitis in different communities in Yemen." <i>Epidemiol Infect</i> 131(1): 771-5. | 12972790 | 712 |
| | | | | total studies | 12 | 4,431 | | 100.00% | | 100.00% | | | |
| | | | | males | 1 | | | | | | | | |
| | | | | females | 4 | | | | | | | | |
| | | | | both | 7 | | | | | | | | |

* indicates publication year; survey year not reported

Table 31: Summary of Surveys Included in Meta-Analysis: Kuwait Western Asia

| Country | Study (survey year*) | Region | Population and sampling method | Sex | Sample (n) | HBsAg | | | RE weight (%) | FE weight (%) | Reference | Access No | Ref No. |
|---------|----------------------|----------------|--|---------------|------------|--------------|--------------|--------------|---------------|---------------|---|-----------|---------|
| | | | | | | positive (%) | lower 95% CI | upper 95% CI | | | | | |
| Kuwait | Al-Nakib, 1986* | | Al-Nakib, 1986*, pregnant women screened at delivery; women of various Arabic nationalities delivering at Kuwait Maternity Hospital, the major maternity hospital in the country (1,554) | females | 1,554 | 2.9% | 2.07% | 3.73% | 49.94% | 49.4% | Al-Nakib, B., A. el-Mekki, et al. (1986). "Hepatitis B virus perinatal transmission among Arab women." <i>Ann Trop Paediatr</i> 6(4): 239-41. | 2435228 | 704 |
| Kuwait | Alkhalidi, 2003-2004 | six governates | Alkhalidi 2003-2004, military recruits and job applicants; Kuwait nationals; adults attending medical checkup required before applying for a new job; also from Armed Forces Hospital that accepts Kuwaiti recruits accepted for military service; males (2,581) | both | 2,581 | 4.8% | 3.98% | 5.62% | 50.06% | 50.6% | Alkhalidi, J., B. Alenezi, et al. (2009). "Seroepidemiology of hepatitis A virus in Kuwait." <i>World J Gastroenterol</i> 15(1): 102-5. | 19124818 | 705 |
| | | | | total studies | 2 | 4,135 | | | | 100.00% | 100.00% | | |
| | | | | males | 0 | | | | | | | | |
| | | | | females | 1 | | | | | | | | |
| | | | | both | 1 | | | | | | | | |

* indicates publication year; survey year not reported

Table 32: Summary of Surveys Included in Meta-Analysis: Azerbaijan Western Asia

| Country | Study (survey year*) | Region | Population and sampling method | Sex | Sample (n) | HBsAg | | | RE weight (%) | FE weight (%) | Reference | Access No | Ref No. |
|------------|----------------------|--------|--|---------------|------------|--------------|--------------|--------------|---------------|---------------|--|-----------|---------|
| | | | | | | positive (%) | lower 95% CI | upper 95% CI | | | | | |
| Azerbaijan | Vorozhbieva, 1985* | | Healthy persons; no selection in abstract; paper in Russian males (315) | males | 315 | 3.8% | 1.70% | 5.92% | 27.81% | 18.2% | Vorozhbieva, T. E., A. V. Iasinskii, et al. (1985). "[Characteristics of the distribution of the markers of hepatitis B vir us infection among the healthy population of the Tadzhi k SSR and Azerbaijan SSR]." Zh Mikrobiol Epidemiol Immunobiol(10): 35-9. | 2936041 | 594 |
| Azerbaijan | Vorozhbieva, 1985* | | Healthy persons; no selection in abstract; paper in Russian females (261) | females | 261 | 1.5% | 0.04% | 3.02% | 35.20% | 36.7% | Vorozhbieva, T. E., A. V. Iasinskii, et al. (1985). "[Characteristics of the distribution of the markers of hepatitis B vir us infection among the healthy population of the Tadzhi k SSR and Azerbaijan SSR]." Zh Mikrobiol Epidemiol Immunobiol(10): 35-9. | 2936041 | 594 |
| Azerbaijan | Galetskii, 1999* | | Representatives of various population groups; no selection in abstract, paper in Russian (835) | both | 835 | 4.1% | 2.76% | 5.44% | 36.99% | 45.0% | Galetskii, S. A., N. B. Seniuta, et al. (1999). "[Analysis of some viral infections, transmitted by parenteral and sexual routes, in the Republic of Azerbaijan]." Vopr Virusol 44(5): 232-6. | 10544453 | 595 |
| | | | | total studies | 3 | 1,411 | | | 100.00% | 100.00% | | | |
| | | | | males | 1 | | | | | | | | |
| | | | | females | 1 | | | | | | | | |
| | | | | both | 1 | | | | | | | | |

* indicates publication year; survey year not reported

Table 33: Summary of Surveys Included in Meta-Analysis: Georgia Western Asia

| Country | Study (survey year*) | Region | Population and sampling method | Sex | Sample (n) | HBsAg positive (%) | | | RE weight (%) | FE weight (%) | Reference | Access No | Ref No. |
|---------|----------------------|--------|---|---------------|------------|--------------------|----------|-------|---------------|---------------|--|-----------|---------|
| | | | | | | lower CI | upper CI | | | | | | |
| Georgia | Kikvadze, 2001* | | Kikvadze 2001*, pregnant women; selection in Russian (500) | females | 500 | 5.2% | 3.25% | 7.15% | 51.60% | 55.3% | Kikvadze, S., Kintraia, P., Bochorisvili, T., Chubinishvili, O. (2001) The rate of viral hepatitis B in pregnant women in Georgia. <i>Georgian Medical News</i> 3:72 | NPM | 596 |
| Georgia | Kurbanov, 2009* | | Kurbanov 2009*; healthy persons 20-66 yo, controls for pts with RA ; selection in Russian (200) | both | 200 | 2.5% | 0.34% | 4.66% | 48.40% | 44.7% | Kurbanov, S. A. and M. K. Mamedov (2009). "[Serological markers of viral infections in patients with rheumatoid arthritis]." <i>Georgian Med News</i> (166): 65-7. | 19235842 | 597 |
| | | | | total studies | 2 | 700 | | | 100.00% | 100.00% | | | |
| | | | | males | 0 | | | | | | | | |
| | | | | females | 1 | | | | | | | | |
| | | | | both | 1 | | | | | | | | |

* indicates publication year; survey year not reported