

剑阁县 2001~2010 年法定传染病流行特征及防治对策分析

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摘要 目的 通过分析 10 年法定传染病疫情的流行趋势和三间分布特征,为制定传染病预防控制策略和措施提供依据。方法 采用描述性流行病学方法分析疫情趋势和三间分布情况,数据资料用 SPSS10.0 和 Excel 2003 进行统计分析。结果 2001~2010 年共报告乙、丙类传染病 25 种 26 129 例,年均发病率 386.89/10 万,年均死亡率 0.15/10 万,10 年间报告法定传染病以血源及性传播传染病和呼吸道传染病为主,居第 1 位的是血源及性传播传染病,共报告 5 种 12 453 例,占 53.03%;其次是呼吸道传染病,共报告 5 种 9828 例,占 41.85%,近 3 年发病居于各类传染病首位,第三位的是肠道传染病,共报 5 种 1 149 例,占 4.89%。发病居前 5 位的传染为乙肝、肺结核、流行性腮腺炎、痢疾、麻疹,主要传染病以乙肝、肺结核为主,近年性传播疾病呈快速增长趋势。结论 血源及性传播传染病和呼吸道传染病是今后重点防控传染病。

关键词 传染病;流行病学特征;分析

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Jian'ge 2001~2010 Infectious Pop Characteristics and the Countermeasures to Prevent and Control Analysis

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ABSTRACT Objective: Through the analysis of the popular trend of statutory infectious disease and three distribution characteristics in 10 years, this paper provides bases for formulating measures and strategies to prevent and control infectious diseases. **Methods:** Analyzing the popular trend and three distribution by descriptive epidemiological methods. Dealing with the data in statistical analysis through SPSS10.0 and Excel 2003. **Results:** It was reported 26129 cases of 25 species of b,c class infectious diseases from 2000 to 2010. The annual average incidence rate was 386.89 per 100000 and annual average mortality was 0.15 per 100000. It was blood and sexually transmitted infectious diseases and the respiratory infectious disease that accounted for a large proportion of Statutory infectious diseases reports in 10 years. Blood and sexually transmitted infectious diseases rank the first, which were reported 12453 cases of 5 species and accounted for 53.03%. The second was respiratory infectious disease, which was reported 9828 cases of 25 species and accounted for 41.85%. It ranked the first place among all species of infectious diseases in recent 3 years. The third was intestinal infectious disease, reported 1149 cases of 5 species, accounting for 4.89%. The infectious diseases in the top five of incidence rate were hepatitis b, tuberculosis, mumps, diarrhea and measles, among which hepatitis b and tuberculosis occupied a large proportion. Sexually transmitted infectious diseases grow rapidly in recent years. **Conclusion:** It is blood and sexually transmitted infectious diseases and respiratory infectious disease that are the key infectious diseases for prevention and control.

Key words: Infectious diseases; Epidemiology characteristics; Analysis

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为认真贯彻执行《传染病防治法》、《突发公共卫生事件与传染病疫情监测信息报告管理办法》,做好传染病疫情监测、报告、管理和应急处置工作,探索流行规律,制定传染病预防控制策略和措施提供依据,现将 2001~2010 年剑阁县法定传染病疫情进行统计分析,现报告如下。

1 资料与方法

1.1 资料来源

疫情资料来源于中国疾病预防控制中心信息系统(其中 2001~2003 年疫情资料来源于中心档案室传染病疫情资料专

卷)人口资料来源于县统计局。

1.2 方法

采用描述性流行病学的方法分析疫情趋势和三间分布情况,数据资料用 SPSS10.0 和 Excel 2003 进行统计分析。

2 结果

2.1 疫情概况

2001~2010 年共报告乙、丙类传染病 25 种 26 129 例(农村 23 689 例,城镇 2 440 例),农村发病显著高于城镇($\chi^2=36.66$ $P<0.01$)。传染病发病率位于 165.29/10 万~866.88/10 万之间,平均发病率 386.89/10 万,最高发病年 2006 年,为 866.88/10 万,达峰值。最低发病年 2001 年,为 165.29/10 万。各年发病率差异有非常显著性意义($\chi^2=8937.26$ $P<0.01$)。传染病死亡率位

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于 0.15/10 万~1.19/10 万之间,平均死亡率 0.40/10 万。乙类传染病报告 17 种 23 485 例 ,占总发病数的 89.88% ,死亡 27 例, 均为乙类传染病 ;丙类传染病报告 8 种 2 644 例 ,占总发病数的 10.12% ,无死亡病例。各年传染病发病、死亡情况见表 1。

表 1 2001~2010 年法定传染病发病率和死亡率
Table 1 2001 ~ 2010 statutory infectious disease morbidity and mortality

年份 Year	合计 Total				乙类传染病 B Class infectious diseases				丙类传染病 C Class infectious diseases	
	发病 Onset (例) (example)	发病率 Incidence (1/10 万) (1/100000)	死亡 Death (例) (example)	死亡率 Mortality (1/10 万) (1/100000)	发病 Onset (例) (example)	发病率 Incidence (1/10 万) (1/100000)	死亡 Death (例) (example)	死亡率 Mortality (1/10 万) (1/100000)	发病 Onset (例) (example)	发病率 Incidence (1/10 万) (1/100000)
全县	26 129	386.89	27	0.40	23 485	347.74	27	0.40	2 644	39.15
2001	1 109	165.29	1	0.15	1 030	153..51	1	0.15	79	11.77
2002	1 162	173.20	0	0	1 032	153.83	0	0	130	19.38
2003	1 319	196.83	0	0	1 083	161.61	0	0	236	35.22
2004	3 038	454.14	1	0.15	2 848	425.73	1	0.15	190	28.40
2005	4 116	616.17	4	0.60	3 913	585.78	4	0.60	203	30.39
2006	5 812	866.88	5	0.75	5 367	800.51	5	0.75	445	66.37
2007	4 096	606.79	8	1.19	3 646	540.13	8	1.19	450	66.67
2008	2 192	320.72	3	0.44	1 956	286.19	3	0.44	236	34.53
2009	1 836	266.93	2	0.15	1 535	223.17	2	0.30	301	43.76
2010	1 449	210.64	3	0.44	1 075	156.27	3	0.44	374	54.37

2.2 流行特征

2.2.1 流行趋势 2001~2006 年传染病发病呈逐年上升趋势,至 2006 年达到最高峰,达 866.88/10 万,后呈逐年下降趋势,至 2010 年下降为 210.64/10 万,呈现 3-5 年流行周期,呈峰型流行

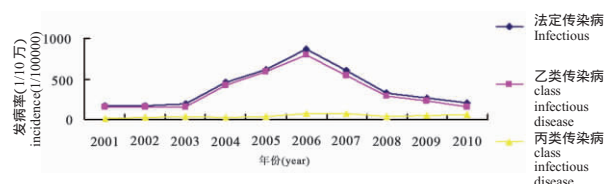


图 1 2001-2010 年传染病流行趋势

Fig.1 2001-2010 years popular trend of infectious disease

2.2.2 几种主要传染病发病情况 2001~2010 年报告传染病以血源及性传播传染病为主^[1],共报 5 种 12 453 例 ,占 53.03% ,近 3 年位于法定传染病的第二位;其次是呼吸道传染病 ,共报告 5 种 9 828 例 ,占 41.85% ,近 3 年位法定传染病的第一位;位于第 3 位的是肠道传染病 ,共报告 5 种 1 149 例 ,占 4.89% ;位于第 4 位的是自然疫源及虫媒传染病 ,共报告 4 种 54 例 ,占 0.23%。2001~2010 年各类传染病构成比和位次见表 2^[2]。2001~2010 年发病居前 5 位的疾病为乙肝 11 757 例,占 45.0%,居第二位的是肺结核,9 042 例,占 34.61%,居第 3 位是流行性腮腺炎,发病 887 例,占 3.39%,居第 4 位的是痢疾,发病 770 例,占 2.95%,居第 5 位的是麻疹,发病 758 例,占 2.90%。各年发病居前 5 位的传染病见表 3。10 年间发病居前 5 位的传染病流行趋势见图 2。

2.3 时间分布

各月均有病例发生 ,4~5 月发病最多 ,共报告 5334 例 ,占

态势。乙类传染病的流行与法定传染病流行趋势基本一致 ,丙类传染流行一直呈平稳态势 ,处于低流行水平 ,近两年发病有所上升 ,主要受手足口病和急性出血性结膜炎影响发病上升。2001~2010 年传染病流行趋势见图 1。

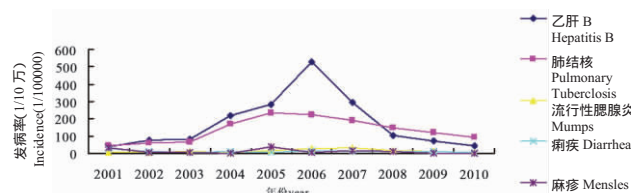


图 2 2001-2010 年发病居前 5 位传染病流行变化趋势

Fig.2 2001-2010 in the top five of an infectious dieases trends

20.41%。1~2 月传染病呈缓慢上升趋势 ,进入 3 月份呈快速增长 ,至 4~5 月达到最高峰 ,进入 6 月份发病下降 ,呈 " 波浪式 " 前进 ,进入 10 月份呈快速增长 ,至 12 月份达到最高峰。各月传染病发病情况见图 3。

3 讨论

近 10 年的传染病疫情分析显示 ,传染病流行具有明显的地区性和季节性分布^[3],冬春季是发病的高峰季节。流行趋势受乙类传染病的影响较大 ,血源及性传播传染病主要是乙肝,呼吸道传染病主要是肺结核^[4],主导着传染病总的发病趋势和走向^[5]。2001~2010 年法定传染病年均发病率 386.89/10 万 ,发病率水平位于全市 3 位。近年来 ,通过采取以控制传染源和切断传染途径为主的综合性预防控制措施^[6],法定传染病从 2007 年开始呈现明显下降趋势。传染病防控措施成效显著^[7]。

表 2 剑阁县 2001~2010 年各类传染病发病例数和位次
Table 2 JianGeXian 2001 ~ 2010, the number of all kinds of infectious diseases and seating arrangement

年度 Year	肠道传染病 Intestinal infection			呼吸道传染病 Respiratory			血源及性传播传染病 Blood Source and sexually transmitted infections			自然疫源及虫媒传染病 Natural Source of infectious diseases and insect vectors		
	例数 Number (例) (example)	构成 Consti- tute (%)	位次 Seating arrange- ment	例数 Number (例) (example)	构成 Consti- tute (%)	位次 Seating arrange- ment	例数 Number (例) (example)	构成 Consti- tute (%)	位次 Seating arrange- ment	例数 Number (例) (example)	构成 Nonsti- tute (%)	位次 Seating arrange- ment
全县	1 149	4.89	3	9 828	41.85	2	12 453	53.03	1	54	0.23	4
2001	220	21.36	3	506	49.13	1	287	27.86	2	17	1.65	4
2002	101	9.79	3	406	39.34	2	525	50.87	1	0	0	4
2003	56	5.17	3	451	41.64	2	576	53.19	1	0	0	4
2004	131	4.60	3	1 141	40.06	2	1 571	55.16	1	4	0.14	4
2005	77	1.97	3	1 821	46.54	2	2 010	51.37	1	5	0.13	4
2006	172	3.20	3	1 523	28.38	2	3 661	68.21	1	11	0.21	4
2007	140	3.84	3	1 412	38.73	2	2 082	57.10	1	12	0.33	4
2008	91	4.65	3	1 084	55.42	1	779	39.83	2	2	0.10	4
2009	97	6.32	3	860	56.03	1	577	37.59	2	1	0.07	4
2010	64	5.95	3	624	58.05	1	385	35.81	2	2	0.19	4

表 3 剑阁县 2001~2010 年发病居前 5 位传染病
Table 3 The top five infectious diseases during 2001 to 2010 in Jiange xian

年度 Year	第 1 位 First			第 2 位 Second			第 3 位 Third			第 4 位 Fourth			第 5 位 Fifth		
	病种 Diseases	发病 Onset (例) (exam- ple)	发病率 Inci- dence (1/10 万) (1/1000 00)	病种 Diseases	发病 Onset (例) (exam- ple))	发病率 Inci- dence (1/10 万) (1/1000 00)	病种 Diseases	发病 Onset (例) (exam- ple)	发病率 Inci- dence (1/10 万) (1/1000 00)	病种 Diseases	发病 Onset (例) (exam- ple)	发病率 Inci- dence (1/10 万) (1/1000 00)	病种 Diseases	发病 Onset (例) (exam- ple)	发病率 Inci- dence (1/10 万) (1/1000 00)
2001	肺结核	282	42.03	乙肝	259	38.60	麻疹	221	32.94	痢疾	184	27.42	流行性 腮腺炎	33	4.92
2002	乙肝	515	76.76	肺结核	387	57.69	痢疾	86	12.82	流行 性感冒	50	7.45	流行性 腮腺炎	45	6.71
2003	乙肝	564	84.16	肺结核	425	63.42	流行 性感冒	116	17.31	流行性 腮腺炎	61	9.10	急性出 血性结 膜炎	49	7.31
2004	乙肝	1472	220.04	肺结核	1129	168.77	流行 性感冒	95	14.20	淋病	87	13.01	痢疾	72	10.76
2005	乙肝	1911	286.08	肺结核	1572	235.33	麻疹	249	37.28	流行性 腮腺炎	111	16.62	淋病	75	11.23
2006	乙肝	3542	528.30	肺结核	1485	221.49	流行性 腮腺炎	186	27.74	其它感 染性腹 泻	113	16.85	流行 性感冒	98	14.62
2007	乙肝	1981	293.47	肺结核	1302	192.88	流行性 腮腺炎	210	31.11	风疹	114	16.89	麻疹	110	16.30
2008	肺结核	1001	146.46	乙肝	695	101.69	流行性 腮腺炎	111	16.24	麻疹	82	12.00	痢疾	58	8.49
2009	肺结核	837	121.69	乙肝	505	73.42	手足口 病	144	20.94	痢疾	75	10.90	流行性 腮腺炎	71	10.32
2010	肺结核	622	90.42	乙肝	313	45.50	急性出 血性结 膜炎	159	23.11	手足口 病	123	17.88	梅毒	48	6.98

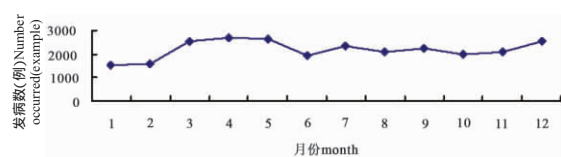


图3 2001-2010年传染发病分月分布

Fig.3 2001-2010 monthly distribution of infectious diseases

根据各种流行因素综合分析,乙肝和肺结核发病率仍将居高不下,乙肝和肺结核一直居于该县法定报告传染病首位^[8],分别占45.0%和34.61%,是该县重点防控的传染病^[9,10]。

近10年传染病流行趋势提示,乙肝和肺结核是防控的主要传染病^[11],同时加强对肠道传染病的监测^[12],进一步建立健全传染病防控机制和网络^[13],针对不同的疾病和不同的人群,采取切实可行的、有针对性的防控措施,强化健康教育和健康促进措施的落实,认真实施好扩大国家免疫规划^[14],严格执行《传染病防治法》和《突发公共卫生事件与传染病疫情监测信息报告管理办法》^[15,16]。建立有效的传染病预警预测机制,开展传染病疫情的月、周、年、年分析,实现对传染病暴发流行的及时预测预警^[17,18],及时发现聚集性病例或不明原因疾病的发展趋势,定期或不定期对各级医疗卫生机构网络直报工作的业务指导^[19]和考核^[20],及时向卫生行政部门提供疫情流行趋势分析和防控对策建议^[21],切实降低传染病的发病率。

参考文献 (References)

- [1] 谢立芝,尹明,陈希希.1998~2002年益阳市传染病构成变化趋势分析[J].实用预防医学,2004,11(2):312-313
Xie Li-zhi, Yin Ming, Chen Xi-xi. 1998~2002 constitution change trend analysis of infectious diseases yiyang city [J]. Practical preventive medicine, 2004,(2):312-313
- [2] 王淑琴.1971~2002年周村区主要法定传染病发病率及发病顺位[J].实用预防医学,2004,11(1):95-96
Wang Shu-qin. 1971~2002 main infectious zhoucun district incidence and the sequence of [J]. Practical preventive medicine, 2004,(1):95-96
- [3] 李泽飞,曹建英,洪文宣,等.1952~2007年云南省耿马县报告法定传染病疫情分析[J].疾病监测,2009,24(5):368-368
Li Ze-fei, Cao Jian-ying, Hong Wen-xuan, et al. 1952~2007, gengma county legal analysis report infectious disease [J]. Disease monitoring, 2009,24(5):368-368
- [4] 刘润友,许军红,罗湘蜀,等.2008年四川省甲乙类传染病流行病学分析[J].预防医学情报杂志,2010,26(4):260-263
Liu Run-you, Xu Jun-hong, Luo Xiang-shu, et al. In sichuan in 2008 a class infectious disease epidemiology analysis [J]. Journal of intelligence preventive medicine, 2010,26(4):260-263
- [5] 曾光.未来十年我国传染病发展趋势的战略对策[J].中国公共卫生,1992,8(4):147
Zeng Guang. The next 10 years in China strategic countermeasures for the development trend of infectious diseases [J]. Chinese public health, 1992,(4):147
- [6] 冯忠彬,徐茂林,张晓岩.白城市52年间法定报告传染病流行趋势分析[J].现代预防医学,2003,30(1):49-50
Feng Zhong-bin, Xu Mao-lin, Zhang Xiao-yan. 52 years in baicheng legal report of an infectious disease trend analysis [J]. Modern preventive medicine, 2003,30(1):49-50
- [7] 刘刚,杨文,何金戈,等.地震灾区传染病控制措施效果分析[J].预防医学情报杂志,2008,24(12):923-925
Liu Gang, Yang Wen, He Jin-ge, et al. The earthquake disaster area infectious disease control measure effect analysis [J]. Journal of intelligence preventive medicine, 2008, 24 (12): 923-925
- [8] 陈斌,黄利群,谭爱军.1990-2001年珠海市传染病流行趋势分析[J].实用预防医学,2003,10(4):536-537
Chen Bin, Huang Li-qun, Tan Ai-jun. 1990-2001 zhuhai trend analysis of an infectious disease [J]. Practical preventive medicine, 2003,10 (4):536-537
- [9] 易蓉.2006年利川市法定报告传染病疫情分析[J].华南预防医学,2008,34(5):44
Yi Rong. In 2006, connects the legal analysis report the epidemic situation of infectious diseases [J]. South China preventive medicine, 2008,34(5):44
- [10] 林芳,陈学军,李杰.某区2001年法定传染病报告流行病学分析[J].现代预防医学,2003,30(3):356-366
Lin Fang, Chen Xue-jun, Li Jie. District 2001 infectious report epidemiological analysis [J]. Modern preventive medicine, 2003,30(3):356-366
- [11] 李欣,裴皎,高博.我国6年间法定甲乙类传染病流行病学分析[J].现代预防医学,2009,36(1):25-27
Li Xin, Pei Jiao, Gao Bo. Six years in our country legal armor class infectious disease epidemiology analysis [J]. Modern preventive medicine, 2009,36(1):25-27
- [12] 黎明强,刘金纪,殷凯.关于城市郊区肠道传染病监测与预警的探讨[J].疾病监测,2006,21(2):57-59
Li Ming-qiang, Liu Jin-ji, Yin Kai. About city suburbs intestinal infection monitoring and warning discussion [J]. Disease monitoring, 2006,21(2):57-59
- [13] 郁会莲,郭晓荣,邱琳,等.传染病网络直报系统与专报系统存在问题及对策建议[J].疾病监测,2010,25(4):333-334
Yu Hui-lian, Guo Xiao-rong, Qiu Lin, et al. Infectious disease network system and special report for straight system problems and countermeasures [J]. Disease monitoring, 2010,25(4):333-334
- [14] 高春雁.浅谈实施计划免疫在控制相应传染病中的重要作用[J].中华临床医学研究杂志,2008,14(6):885
Gao Chun-yan. Implementation plans in control on immune relevant infectious diseases in an important role [J]. Journal of clinical medical research journal, 2008,14(6):885
- [15] 朱红卫,游小红.南昌县1994~2003年法定报告传染病疫情动态分析[J].华南预防医学,2004,30(5):15-16
Zhu Hong-wei, You Xiao-hong. Na Changxian 1994~2003 legal dynamic analysis report the epidemic situation of infectious diseases [J]. South China preventive medicine, 2004,30(5):15-16
- [16] 代正辉.浅谈实施计划免疫在控制相应传染病中的重要作用[J].中国临床医药研究杂志,2007,172(10):71
Dai Zheng-hui. Showing implementation plans in relevant infectious diseases control immune to the important role [J]. China journal of clinical medicine research, 2007,172(10):71
- [17] 杨维中,邢慧娴,王汉章,等.七种传染病控制图法预警技术研究[J].中华流行病学杂志,2004,25(2):1034-1041 (下转第4768页)

- gins" of adult diseases: programming by oxidativestress?[J]. Med Hypotheses, 2006,66:38-44
- [28] McKinney ET, Shouri R, Hunt RS, et al. Plasma, urinary, and salivary 8-epi-prostaglandin f2alpha levels in normotensive and preeclamptic pregnancies [J]. Am J Obstet Gynecol, 2000, 183: 874-877
- [29] Chappell LC, Seed PT, Briley AL, et al. Effect of antioxidants on the occurrence of pre-eclampsia in women at increased risk: a randomised trial[J]. Lancet, 1999,354:810-816
- [30] Chappell LC, Seed PT, Kelly FJ, et al. Vitamin C and E supplementation in women at risk of preeclampsia is associated with changes in indices of oxidative stress and placental function [J]. Am J Obstet Gynecol, 2002,187:777-784
- [31] Poston L, Raijmakers M, Kelly F. Vitamin E in preeclampsia[J]. Ann N Y Acad Sci, 2004,1031:242-248
- [32] Polyzos NP, Mauri D, Tsappi M, et al. Combined vitamin C and E supplementation during pregnancy for preeclampsia prevention: a systematic review[J]. Obstet Gynecol Surv, 2007, 62:202-206
- [33] Poston L, Briley AL, Seed PT, et al. Vitamin C and vitamin E in pregnant women at risk for pre-eclampsia (VIP trial): randomised placebocontrolled trial[J]. Lancet, 2006,367:1145-1154
- [34] Lagendijk J, Ubbink JB, Vermaak WJ. Measurement of the ratio between the reduced and oxidized forms of coenzyme Q10 in human plasma as a possible marker of oxidative stress [J]. J Lipid Res, 1996,37:67-75
- [35] Banerjee S, Chambers AE, Campbell S. Is vitamin E a safe prophylaxis for preeclampsia?[J]. Am J Obstet Gynecol, 2006,194:1228-1233
- [36] Crane F, Navas P. The diversity of coenzyme Q function [J]. Mol Aspects Med, 1997,18:S1-6
- [37] Karlsson J. Ubiquinone and a-tocopherol in plasma; means of translocation or depot[J]. Clin Invest, 1993, 71(supplement): s84-s91
- [38] Giuseppe Noia, Gian Paolo Littattu. Coenzyme Q10 in Pregnancy[J]. Fetal Diagn Ther,1996,11:264-270
- [39] Yalcin A, Kilinc E, Sagcan A, et al. Coenzyme Q10 concentrations in coronary artery disease[J]. Clin Biochem, 2004, 37:706-709
- [40] Mahomed K, Williams MA, King IB, et al. Erythrocyte omega-3, omega-6 and trans fatty acids in relation to risk of preeclampsia among women delivering at Harare Maternity Hospital, Zimbabwe[J]. Physiol Res, 2007,56:37-50
- [41] Finckh B, Kontush A, Commentz J, et al. Monitoring of ubiquinol-10, ubiquinone-10, carotenoids, and tocopherols in neonatal plasma microsamples using high-performance liquid chromatography with coulometric electrochemical detection [J]. Anal Biochem, 1995,232: 210-216
- [42] Stocker R, Bowry VW, Frei B. Ubiquinol-10 protects human low density lipoprotein more efficiently against lipid peroxidation than does alpha-tocopherol[J]. Proc Natl Acad Sci U S A, 1991, 88:1646-1650
- [43] Teran E, Racines-Orbe M, Vivero S, et al. Preeclampsia is associated with a decrease in plasma coenzyme Q10 levels [J]. Free Radic Biol Med, 2003, 35:1453-1456
- [44] Stoyanovsky DA, Osipov AN, Quinn PJ, et al. Ubiquinone-dependent recycling of vitamin E radicals by superoxide [J]. Arch Biochem Biophys, 1995,323:343-351
- [45] K. Lonnrot, I. Porsti, H. Alho, et al. Hervonen and J.P. Tolvanen, Control of arterial tone after long-term coenzyme Q (10) supplementation in senescent rats[J]. Brit J Pharmacol, 1998, 124:1500-1506
- [46] H. Yokoyama, D M Lingle, J A Crestanello, et al. Whitman, Coenzyme Q10 protects coronary endothelial function from ischemia reperfusion injury via an antioxidant effect [J]. Surgery, 1996, 120: 189-196
- [47] Tiano L, Belardinelli R, Carnevali P, et al. Effect of coenzyme Q10 administration on endothelial function and extracellular superoxide dismutase in patients with ischaemic heart disease: a double-blind, randomized controlled study[J]. Eur Heart J, 2007,28(18):2249-2255
- [48] P.R. Palan, D W Shaban, T Martino, et al. Lipid-soluble antioxidants and pregnancy: maternal serum levels of coenzyme Q10, alpha-tocopherol and gammatocopherol in preeclampsia and normal pregnancy [J]. Gynecol Obstet Invest, 2004, 58:8-13
- [49] E. Teran, S.Vivero, M. Racines-Orbe, et al. Coenzyme Q10 is increased in placenta and cord blood during preeclampsia [J]. Biofactors, 2005, 25:153-158
- [50] K.A. Starzyk, C.M. Salafia, J.C. Pezzullo, et al. Pijnenborg, Quantitative differences in arterial morphometry define the placental bed in preeclampsia[J]. Human Pathol, 1997,28:353-358
- [51] Enrique Teran. Coenzyme Q10 supplementation during pregnancy reduces the risk of pre-eclampsia [J]. International Journal of Gynecology and Obstetrics, 2009,105: 43-45

(上接第 4724 页)

- Yang Wei-zhong, Xing Hui-xian, Wang Han-zhang, et al. Seven an infectious disease control chart warning technology research [J]. The Chinese journal of epidemiology, 2004,25(2):1034-1041
- [18] 邢慧娴,杨维中,王汉章.传染病预测[J].预防医学情报杂志,2004,20(6) 639-642
- Xing Hui-xian, Yang Wei-zhong, Wang Han-zhang. Infectious disease prediction [J]. Preventive medicine intelligence magazine, 2004, 20(6):639-642
- [19] 施小明,马家奇,杨功焕.我国医疗机构传染病报告管理工作中存在的问题及改进对策[J].疾病监测,2006,21(5) 225-227
- Shi Xiao-ming, Ma Jia-ji, Yang Gong-huan. Chinese medical institution infectious disease report problems existing in the management of the improvement and countermeasures [J]. Disease monitoring, 2006,21(5):225-227
- [20] 王丽萍,郭青,张春曦,等.网络直报下模式传染病发现相关环节探讨[J].疾病监测,2007,22(12) 851-852
- Wang Li-ping, Guo Qing, Zhang Chun-xi, et al. The network for straight under find related link discuss infectious disease model [J]. Disease monitoring, 2007,(12):851-852
- [21] 李鸿瑞,丁羽.同煤集团地区 2005-2007 年度法定传染病疫情分析及防控对策[J].中国卫生监督杂志,2009,16(4) 366-371
- Li Hong-rui, Ding Yu. With the coal group of 2005-2007 in the annual statutory infectious disease prevention and control analysis and countermeasures[J]. China's health supervision, 2009,16(4): 366-371