〈教育報告〉

平成19年度専門課程II
国際保健分野
Course Name: Master of Public Health

An Assessment of Knowledge, Skill, Perception and Practice of Community Health Volunteer on Nine Key Family Practices for Health in Mondol Kiri and Stung Treng on Community Intetrated Management Childhood Illness in Cambodia

Teng Srey

Abstract

Introduction: The health status of Cambodian children remains one of the lowests in the World. For example, Under-five mortality rate is still very high, and maternal mortality ratio* (437 per 100,000 live births) is among the highest in the South-Asia region. The preliminary result of Cambodia Demographic Health Survey 2005 has shown that under-five, infant and neonatal mortality rates were 83, 65, and 28 per 1,000 live births, respectively. Children are suffering from the current four major causes such as neonatal condition (30%), acute respiratory illness (21%), and diarrhoea (17%), other diseases associated with malnutrition. The third component of integrated management of childhood illness (IMCI), which is called community integrated management of childhood illness (CIMCI), is recently focused on improving family and community practices. To do these tasks, community practices based on strategy are needed, and community health volunteers (CHVs) are the key-persons in the community to promote public health, to support health practices and to follow-up all mothers and children to be received their needed preventive interventions. CHVs have been trained on CIMCI since 2005 by health centre staff to perform better jobs. The training program (12 key family practices) was carefully designed to enrich knowledge, skill, perception and practice of CHV with the necessary topics related to common childhood illness and simple interventions that are feasible and accessible at the community levels.

Objectives: The aim of this study is to investigate relationships among knowledge, skill, perception and practice of CHV on 9 key family practices of CIMCI in 2 typical provinces in Cambodia: Mondul Kiri which has no training program for CHV and Stung Treng which has a general training program for CHV. The results of this study will contribute to improve the training activities and to strength the current national child care program.

Methodology: A survey was conducted using questionnaires (by face to face interview) designed to know the situation of knowledge, skill, perception and practice of CHVs related to 9 key family practices. 97 CHVs were randomly selected (55 CHVs from Mondul Kiri and 42 CHVs from Stung Treng) between 25 July to 4 October 2006. Data were analyzed by using SPSS version 13.0. Descriptive statistical methods were used for describing the actual states about CHVs' knowledge, skill, perception and practices on 9 key family practices. And some analytical methods (Chi-square test, Mann-Whitney test and Spearman rank correlation test) were applied to analyse the relationship between some key variables on knowledge, skill, perception and practice and socio-demographic.

Result: 1. <u>Socio-demographic:</u> The proportion of number of females to total respondents was almost the same in Mondul Kiri and Stung Treng (the proportion of females was 57 percent). Ninety percent of CHVs completed first year grade of school. About 44 and 83 percent of respondents have been working more than one year in Mondul Kiri and in Stung Treng, respectively. 69 percent of respondents in Mondul Kiri received technical support from Ministry of Health while only 48 percent in Stung Treng. 69 percent of respondents in Stung Treng received technical support from UNICEF. 46 and 95 percent of respondents received financial support in Mondul Kiri and Stung Treng, respectively.

2. <u>Knowledge, Skill, Perception and Practice:</u> The percentages of respondents who had good score to the questions about knowledge in Mondul Kiri and Stung Treng were as follows, respectively: 47 and 90 percent in the question on "breastfeeding", 26 and 70 percent on "complementary feeding", 24 and 47 percent on "micronutrient", 52 and 76 percent on "hygiene and safe water", 47 and 77 percent on "continued to feed and offer more fluids", 34 and 62 percent on "danger sign", 79 and 95 percent on "give sick children appropriate home treatment for infections", 30 and 56 percent on "antenatal care", 7 and 44 percent on "malaria" . The percentages of respondents who had good score to the questions about skill on "hygiene, malaria and home care" in Mondul Kiri and Stung Treng were 57 and 68 percent, respectively. The percentages of respondents who had good score to the question about perception on "breastfeeding and ANC" in Mondul Kiri and Stung Treng were 62 and 84 percent, respectively. 38 and 74 percent of respondents had good practice in Mondul Kiri and Stung Treng, respectively.

3. <u>Relationship among knowledge, perception, practice and skill:</u>

Mondul Kiri:

-Knowledge on "children under six month need to drink water along with breast milk", "liquid (s) should give to child after birth", "recommend milk for healthy grow of infant" and "breastfeeding" have significant relationship with perception on "hot breast milk after working outside or doing heavy labour can cause a child to have diarrhoea or fever" (p<0.01 and p<0.001 respectively).

-There were significant relationships between knowledge "on symptoms of vitamin A deficiency" and practice on "specific issues" (p<0.05), and between knowledge on "number of ANC visit for pregnant women" and practice on "other activities" (p<0.05).

-There were significant relationships between skill on "treatment malaria" and practices on "specific issues"

(p<0.01), between skill on "treatment intestinal parasites, hygiene" and practice on "other activities" (p<0.05).

Stung Treng:

-Knowledge on "recommended milk for healthy growth of an infant" and "breastfeeding" have significant relationships with perception on "hot breast milk after working outside or doing heavy labour can cause a child to have diarrhoea or fever" (p<0.01 and p< 0.05, respectively).

-Knowledge on "how can prevent vitamin A deficiency", "pregnant women should take vitamin A after giving birth" and "recommended time for post-partum vitamin A supplementation" have significant relationships with practices of other activities (education on child illness, health centre referral, hygiene education, distribute to stop mosquito larvae and collect information on women and new-borns) (p<0.05).

-Skills on "how to prevent intestinal parasite" and "hygiene" have significant relationships with practices on "other activities" (p<0.05, p<0.05) and "specific issues (child immunization, tetanus toxoid vaccination for pregnant, vitamin A for women who recently gave birth, promotion of ANC visits, promote use of iodized salt in household, delivery of insecticide treated bednets)" (p<0.05, p<0.05).

-Perception on "hot breast milk after heavy labor or work outside can make child have diarrhea or fever" has a significant relationship with the practice on "involvement in community mobilization on other activities" (p<0.05).

4. <u>Relationship between socio-demographic and knowledge, skill, perception, practice:</u>

Mondul Kiri:

-There were significant relationships between gender and knowledge on "danger sign, ANC" (p<0.05), between education level and knowledge on "breastfeeding, complementary feeding, and malaria" (p<0.05), between education level and perception on "breastfeeding" (p<0.05), between working year experience and knowledge on "malaria" (p<0.05) and between technical support from MOH and practice on "collaboration with local health centre" (p<0.05).

Stung Treng:

-There were significant relationships between gender and practice on "specific issues" (p<0.01), between education level and knowledge "on micronutrient" (p<0.001), between working experience and knowledge on "micronutrient" (p<0.05), and practice on "specific issues" (p<0.05), between financial support and skill on "treat malaria" (p<0.05), and practice on "specific activities" (p<0.05), between technical support from MOH and knowledge on "breastfeeding", and practice on "other

activities" (p<0.001), between technical support from UNICEF and knowledge on "hygiene, continued to feed and offer more fluids" (p<0.05), between technical support from UNICEF and practices on "specific issues" (p<0.05).

Conclusion: CHVs in Stung Treng had higher level of knowledge, skill, perception, and practice than CHVs in Mondul Kiri on 9 key family practices for health. In Stung Treng, there were relationships between: 1) knowledge and perception, 2) knowledge and practice, 3) skill and practice, and 4) perception and practice. In Mondul Kiri, there were relationships between: knowledge and perception, knowledge and practice, and skill and practice. The training on CIMCI for CHV is very effective, useful and essential to provide knowledge, skill, perception, and to enhance their capacity in practice for playing major roles in health promotion for community people in their catchments areas, to change behaviour and practices of caregivers for participating activities in reducing infant and child morbidity/mortality and to improve child health and development in the country. In order to maintain the knowledge, skill, perception and practice of CHV, the follow-up after training or the refreshment training are needed. The selection of CHVs who have to attend the training should be done with considering gender, education level and working experience. Technical support and financial support are essential to enhance the knowledge, skill, perception, and practice of CHVs.

〈教育報告〉

平成19年度専門課程 II
国際保健分野
Course Name: Master of Public Health

Referral of High-risk Antenatal Clients from Community Health Centres to the Victoria Jubilee Hospital: Kingston and St. Andrew, Jamaica

O'Neil Anthony Watson

Abstract

Objective: The main purpose of this study was to assess the promptness of the high-risk antenatal clients to get to the hospital after referral from the health centres, in the Kingston and St. Andrew region, Jamaica, so as to improve the referral system. This was achieved through the following specific objectives:

1．Determining the high-risk profile of the clients referred

2．Determining the time taken for high risk clients to visit the tertiary hospital after being referred

3．Determining if early attendance to high-risk clinics bears any relationship with demographic features, medical conditions, past obstetric history or complications of this pregnancy and

4．Determining if clients' compliance to referral advice to get to the high-risk clinics bears any relationship with demographic features, medical conditions, past obstetric history or complications of this pregnancy.

Study design and method: A cross-sectional study was conducted using records (dockets) from the community health centres and the specialist hospital, Victoria Jubilee Hospital (VJH). The sample consists of 105 matching records between 17 health centres and VJH of high-risk antenatal clients referred during the period January 1, 2006 to February 28, 2006. Overall 80.2% of records matched between primary care and the specialist institution. Clients were stratified into two groups based on the number of days taken to get to the hospital after being referred from the health centre. They were classified as early if they attended obstetric care within 7 days while late if they attended after that period. Women who were admitted to the hospital after this seven-day period for the sole purpose of delivery and without any prior assessment at the high-risk clinic were termed non-compliant.

Results: Seventy-six (72.4%) of the clients had single referral indications. There were a total of 140 high-risk conditions among the 105 clients of which: anaemia 17.9% (n=25), previous caesarean section 13.6% (n=19), grand multiparas 11.4% (n=16), young teenagers 9.3% (n=13) and unsure of dates 8.6% (n=12) were the most frequent referred conditions. The mean age was 25.3+/- 7.6 years (range 13-41 years, median 25 years). The average time that the clients took to get to the specialist hospital after referral from the health centre was 31.5+/- 31.6 days (range 0-139 days, median 25 days). Only 30.5% (n=32) of them arrived at the Victoria Jubilee Hospital within seven days, but remarkably, patients having pre-eclampsia (p<0.01) and patients referred at or after 37 weeks of gestation (p <0.01) were early. On the contrary, the greater proportion of clients referred with demographic features, past obstetric history and anaemia were late. Only 8% (n=2/25) of clients referred from Zone 2 were early (p=0.01). The compliance rate to referral advice was 84%. The mean time to hospital for the non-compliant patients (n=17) was 58.0+/- 32.7 days (range 21-139 days, median 48 days).

Conclusion: Clients with pre-eclampsia arrived early in this study. This type of focused antenatal care and referral to specialized care is important to reduce maternal morbidity and mortality. The current guidelines for management and referral of clients with this condition should be maintained and supported. However, the punctuality of high-risk clients especially with anaemia, demographic features and past

obstetric conditions needs to be improved. Health education among clients with high-risk conditions may need to be strengthened. The impact of social and economic factors on antenatal clients will require further study. Alternatively, the skill and competency of human resource personnel at the health centre can be gauged so that non-emergency high-risk clients can be managed longer in the community. However, the sample size and other limitations of this study may not be sufficient to make such recommendations.

〈教育報告〉

平成19年度専門課程II
国際保健分野
Course Name: Master of Public Health

A Descriptive Case Study of Wait House Concept Provided at Malalua Health Centre for Pregnant Mothers in Kerema District, Gulf Province, Papua New Guinea

Bernard Maima BAL

Abstract

Introduction

The Maternal Mortality Rate for Gulf Province is 790 per 100 000 live births and that was recorded as the second highest maternal deaths by province in PNG. Of all maternal deaths, an average of 45% was from obstetric causes. These statistics posed a major challenge for the division of Health in the Province.

Among the many problems, the core problem that contributed to the high MMR was poor access by pregnant women to health facilities for ante-natal screening and delivery under the supervision of skilled health workers (doctors/midwives/nurses). Having realized that, the Maternal and Child Health Services in its endeavor to address the high MMR has initiated the Wait House. The goal of WH concept was to improve the MCH services in order to reduce the high MMR in the province as the ultimate outcome.

Objectives

1) To assess the factors associated with the decision for the utilization of the wait house; and 2) to assess the utilization and outcome of the wait house and determine if it is beneficial to the users from the view points of the users and service providers.

Method/Design

A descriptive case study by using questionnaires that had four parts: information on socio-demographic factors, socio-economic and cultural factors, accessibility factors and health service factors. The target population was the users of the WH selected among the five main catchment villages served by Malalaua Health Centre. The data were collected in December 10th to 13th, 2007.

Results/Discussion

Socio-demographic factor

The characteristics of the respondents: 50 mothers who have used the wait house and delivered at Malalaua health centre were interviewed. The mean age was 37 ± 34.7 years. 86.0 % (n=43) were married and 72.0 % had primary school education.

Socio- economic and cultural factor

All (n=50) respondents were subsistence farmers with mean monthly income of 203 kina from subsistence farming which enabled them to meet the transport cost when they went to use the WH. 94.0 % respondents (n=47) reason for the use of WH was to have easy access to delivering at the health centre under the supervision of the midwives and nurses. Nearly all (n=49) respondents made the decision for the use of WH a week to two weeks prior to their arrival at WH. 64.0 % (n=32) respondents made the decision themselves to use the WH while 36.0 % (n=18) decided together with their husbands. The study found that the higher the level of education, the more freely the respondents discussed with their husbands, and the more considerate they were of the importance of utilization of the WH they perceived. The study also found that more than half (54.0 %) of the respondents encountered objections to their decision for the use of WH. The respondents who made the decision by themselves encountered more objections than those decided together with their husbands. The study also found statistical significance (p=0.04) that

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the more the objections encountered the more reluctant and discouraged they were to using the WH and attending ANC clinics.

Accessibility factor

For 94.0 % (n=47) respondents, it was not easy for them to travel to the health centre when they were pregnant. Distance, therefore, was one of the factors they considered in their decision for the use of WH. For those who considered distance as a factor also rated cost as expensive. This finding indicates that for those who lived far away it was very difficult to get to the health centre to deliver. The mean travel time taken to reach the WH was 3.3 ± 1.16 hours and 38.0 % respondents took more than four hours to arrive at the WH. This finding illustrates the difficulties one had to endure particularly when pregnant to reach the WH. It was found statistically significant (p=0.001) that those who used land transport took longer time to reach the WH than river/sea transport. 92.0 % (n=46) respondents considered weather as one of the factors in their decisions for using WH. Statistical significance was found (p=0.002) that those who considered weather as a factor rated cost as expensive. It is speculated that changes in the weather pattern inflated travel cost. Transportation problem was another factor considered by 90.0 % (n=45) respondents in their decision to use the WH.

Health service factor

The study found that there were no midwives available in the village. It was one of the influential factors respondents considered for the use of WH. The non availability of midwives was due to not enough midwives positions available in the province. The study found that dissemination of information was an enabling factor. 98.0 % (n=49) respondents received information about the availability of the WH via their friends and have turned up to use the WH. Radio doctor program and monthly health broachers were found to be not the suitable means of sending out information. This indicate that appropriate means of sending out information that the majority of the population can easily have access to needed to be identified and used for disseminating information. The study further found that WH was beneficial to the users as indicated by all (100 %) respondents.

Conclusion

It is concluded through the interview conducted among the women who used the WH that the non availability of the midwives in the villages, distance, travel time, the weather and transportation problems were the main factors mothers considered in their decision for using the WH.

In all, it can be deduced that WH is beneficial to the users and has increased the number of health centre deliveries. Therefore, there is a need for the district health management team to carry out more awareness on the availability of WH, promote male partnership and get more male leaders to actively participate in the awareness programs and extend the concept to other major health canters in the district.

〈教育報告〉

平成19年度専門課程II
国際保健分野
Course Name: Master of Public Health

Accessibilty of Drugs in Mtwara Regional Hospital, What is the Challenge Ahead?

Florah B. Makenya

Thesis Advisor:　Ken- Ichiro Taneda

Introduction:

Good health is an important element required for national development, poverty alleviation and other health development gain needed by all. It is acknowledged that, most leading causes of death and disabilities in developing countries can be prevented, treated or at least alleviated with the use of cost effective essential drugs. Scaling up access to essential medicines is critical to global efforts to prevent millions of death a year, to reduce suffering and to lessen burden of illness. It is estimated that by improving access to existing essential medicines and vaccines about 10 million lives per year could be saved (WHO 2004). The study intended to assess drug access and utilization in Mtwara regional hospital.

Objectives:

General objective was to examine the access of essential drugs in the hospital and thereafter to identify problems and define areas which needed improvement. The specific objectives were to assess (1) Facilities factors using availability of key drugs, stock out duration, average medicine cost per encounter, presence of treatment guidelines (STGs) and adequacy of storage conditions as indicators. (2) Prescribers factors employing average number of drugs per prescription, percentage of patients receiving injections and antibiotics, tracer cases treated according to STGs. (3) Pharmaceutical dispensing factors using percentage of drugs actually dispensed, drugs adequately labelled and patients with knowledge of correct

doses as indicators.

Study Design and Methods:

The study was a cross sectional descriptive study based on methodology developed by INRUD/WHO as well as focused on Level II Indicators. Access in this study was expressed as the availability of affordable, good quality, appropriate and efficiently use of drugs. The study site comprised two private pharmacies, a government ware house and an out patent department at a public hospital. The study involved 16 key drugs to treat common illnesses, 100 patients encountered in dispensing area, 152 patients' prescriptions and pharmacy inventory books. The study utilized retrospective and prospective methods. The data were collected in July-August 2007.

Results:

Facilities indicators: Availability of key drugs surveyed was 81.25% in the public hospital, 87.5% in the private pharmacies and 93.75% in the government warehouse. The median stock-out duration in the public hospital was 53days (mean 68 ± 79 days). The mean cost for each prescription surveyed (n=70) required 4.4 working hrs for the least paid government employee (equivalent to $11.5 \pm 12.9\%$ of the weekly salary). Storage condition in dispensing area of public hospital was inadequate (score 5 out of 11), which implies the quality of medicine may be doubtful.On the other hand, the warehouse storage condition was adequate (score 10 out of 11) and hence drugs were of good quality.
Prescriber's indicators: Average number of drugs prescribed per patient was 2.7 ± 0.99. There was no correlation (R=0.0132) between number of drugs prescribed with age

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of patients. Percentage of patients received injection and antibiotics were 34 ± 4.3% and 68 ± 2.8% respectively. Utilization of antibiotics to children with diarrhea was 100%, while in ARI (non pneumonia) was 85%. 84.2% of patients diagnosed with mild/ moderate pneumonia were treated with antibiotics, out of which 81.25% were prescribed more than one kind of antibiotics. Use of ORS (Oral Rehydration Salt) to children presented with diarrhea was 85%. In treatment of uncomplicated malaria, six regimens were found, only 50% of the cases were treated with first line mediations (Artemether/Lumefantrine – ALu tabs/Coartem®).

Pharmaceutical dispensing indicators: Percentage of drugs actually dispensed to patients encountered (n=100) was 85.5%. The main reason for un-supplied drugs was out of stock (83.3%). 90.2% of drugs dispensed were adequately labeled while 66% of patients under stood how to take their drugs correctly. There was no association in number of drugs dispensed and patients' knowledge of correct doses. (x^2, p>0.05, R=0)

Conclusion:

Nearly all indicators showed disquieting results. Though availability of drugs both in the medical store and the public hospital was reasonable, stock-outs duration was irrational. The facility prescribed average of three drugs per patient slightly higher to recommendation of INRUD/WHO of less than two drugs per prescription. In order to understand specific causative factors, it is necessary to undertake detailed assessment in areas which showed inadequate results such as stock-out duration, tracer cases treated according to guidelines, patients' knowledge and high utilization of injections and antibiotics.

Drugs and medicines have the same meaning.

〈教育報告〉

平成19年度専門課程 II
国際保健分野
Course Name: Master of Public Health

Factors affecting the successful TB treatment of TB/HIV cases under a community TB/ART DOT program in Zambia

Kuniko MURAKAMI

KeyWords: community DOT, tuberculosis, HIV/AIDS, treatment success, Zambia

Thesis Advisors: Tomoko KODAMA, Norio YAMADA

Background

A rapid increase of tuberculosis (TB) cases is largely due to the Human Immunodeficiency Virus and Acquired Immunodeficiency Syndrome (HIV/AIDS) epidemic and 50-70% of TB patients are estimated to be co-infected with HIV/AIDS in Southern African countries. The Directly Observed Treatment Short-course (DOTS) has been an internationally accepted strategy for TB control since 1995. DOT is one of five components of DOTS. Several previous studies focused on the health center based DOT to assess the factors affecting the TB treatment outcome; however, few studies examined the effectiveness of the community-based DOT. As antiretroviral therapy (ART) expands, the community DOT approach is recognized as one of the entry points to ART. It is important to assess the factors affecting TB treatment outcome in the settings of the community DOT.

Objective

To determine the factors affected TB treatment outcomes of TB/HIV cases under the community TB/ART DOT program.

Methods

Study design Observational case-series study of TB/HIV patients (Part I) and combined analysis with semi-structured questionnaire for health volunteers (Part II) **Study settings** Kamanga Operational Research (Kamanga-OR) of community-based TB/HIV/AIDS organization (CBTO)

which is a nongovernmental organization in Kamanga compound, Lusaka, Zambia. **Inclusion criteria** Adults over 20 years of age with pulmonary tuberculosis, HIV positive, and no history of ART. **Participants** A total of 91 participants out of 138 applicants met the criteria and enrolled to the study from August 2004 to August 2005. **Data Collection and Measurements** Part I data were utilized from the Kamanga-OR database, such as socio-demographics, TB history, initial symptoms, sputum smear results, and initial CD4 counts. Those data were collected during the period of August 2004 and August 2007 by interview from 91 participants and laboratory examination. Part II data were collected by 10 trained health counselors using a semi-structured questionnaire from 47 health volunteers who followed 91 participants during the period of the 20th and 29th August 2007. The variables in the questionnaire were the existence of side-effect, its severity, and its management during treatment including ART, family support, and patient attitude. **Analysis** A total of 91 participants were classified into two groups in terms of the TB treatment outcome, "treatment success" and "non-treatment success." We obtained the Odds Ratios of each variable of socio-demographic and laboratory data for treatment outcome (Part I). We examined the association between treatment outcome and side-effect, family support, and patient attitude using the chi-square test (Part II).

Results

Among the total participants, 62.6% had treatment success (8.8% were "cured" and 53.8% were "treatment completed") and the 37.4% belonged to non-treatment success (15% "died", 10% were "defaulter" and 12% were "transfer out"). There was no statistically significant

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difference between the TB treatment outcome and gender, age, marital status, employment status, annual income, drinking habit, and smoking habit. There was a significant difference between TB treatment outcome and the facilities where the participants consulted first. (OR: 2.77, 95%CI: 1.15-6.65). ART commencement was statistically significant for treatment success (OR: 5.47, 95%CI: 2.16-13.83). The severity of the side-effects from TB/HIV treatment, and the level of management after consultation were not significantly related to the treatment success (p=0.10, p=0.09, respectively), however, the course of the symptoms after consultation was strongly related to the treatment outcome (p<0.001).Cooperative family support and positive patient attitude were significantly associated with treatment success (p=0.03, p<0.001, respectively).

Discussion and Conclusion

The participant's first contact with a referral TB diagnostic centre was strongly associated with treatment success compared to the contact with other facilities. Further analysis is needed regarding the influence of ART on TB treatment outcome. We found positive relationships between cooperative family support and treatment success, and patient positive attitude and treatment success. The positive attitude would lead to proper treatment adherence, which is crucial, especially for ART, to avoid drug resistance. Compared with a health center based approach, the community-based approach could be more affected by stigma and discrimination regarding TB and HIV/AIDS. CBTO is regularly offering "therapeutic meetings" for all persons with an interest in TB/HIV issues to tackle such stigma.

The collaboration program between TB and HIV/AIDS treatment has been strengthened as ART has been expanded in Zambia. This study suggested that a community approach could an important approach to encourage patients and family members, which would lead them to a successful treatment outcome.

〈教育報告〉

平成19年度専門課程 II
健康危機管理分野

レプトスピラ症の診断と報告に関する研究
宮崎県における医師・獣医師を対象とした KAP 調査

高橋亮太

Cross Sectional Study About Diagnoses and Reports of *Leptospirosis*;
Knowledge, Attitude and Practice Survey of Physicians and Veterinarians in Miyazaki Prefecture.

Ryota TAKAHASHI

Abstract

Objective: Perform a cross sectional questionnaire survey about *Leptospirosis* to reveal the relationship between diagnoses and reports by physicians and veterinarians in infectious disease surveillance.

Materials and methods: Knowledge, attitude and practice survey was conducted among 471 physicians and 74 veterinarians in Miyazaki Prefecture.

Results: Totally, 205 physicians (43.5%) and 57 veterinarians (77.0%) reported the questionnaires. We observed a lack of essential epidemiological information among the physician group. On the other hand, among the veterinarian group, we observed that it was difficult for veterinarians to make diagnoses because of an inadequate laboratory system.

Conclusion: To improve the *Leptospirosis* surveillance system in Miyazaki Prefecture, we recommended they provided epidemiological information to physicians regularly and developed an effective laboratory test system.

Keywords: *Leptospirosis*, zoonosis, surveillance, questionnaire survey, Miyazaki Prefecture

Thesis Advisor: Tomoko TACHIBANA, Takaaki OHYAMA

Ⅰ．目的

感染症サーベイランスの問題点として，診断された症例数よりも，過少報告されている可能性が指摘されている．すなわち，報告は診断した医師・獣医師の知識，態度，行動により異なっている可能性がある．今回，医師・獣医師による診断と報告の詳細を検討するために人獣共通感染症であるレプトスピラ症に注目した．

レプトスピラ症の確定診断には臨床検査が必要である．特に，イヌのサーベイランスの届出基準は7種類の血清型に限られているため臨床検査による血清型の判定が必要不可欠になっている．また，ヒトとイヌの症例の発生動向や国立感染症研究所実地疫学専門家養成コース（FETP）の疫学調査結果から[1]，宮崎県における対策が必要と考え

られている．

本研究では 1) 医師・獣医師を対象としたレプトスピラ症認知度を把握すること，2) 診断と報告について考察すること，3) 宮崎県における今後のレプトスピラ症対策に役立つような情報提供を行なうこと，を目的として調査を実施した．

Ⅱ．方法

宮崎県医師会の内科医会に所属する医師471人全数および宮崎県獣医師会に所属し動物病院に勤務する獣医師74人全数を対象として，無記名による自記式質問票調査を郵送法により実施した．調査期間は，医師が2007年11月から12月にかけて，獣医師が同年10月から11月にかけて実施した．集計は，医師，獣医師別々に実施し単純集計にて分析を行った．

調査票は KAP 調査の手法に基づき[2]，属性，レプトスピラ症の認知度・情報源，診断と報告等の知識（K:

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Knowledge），態度（A: Attitude），行動（P: Practice）を問う質問項目を設定した.

Ⅲ．結果

1．医師アンケート結果

　有効回答数および有効回答率は205人（43.5%）であった．認知度は，「レプトスピラ症を知っている」が205人中183人（89.3%）であった．その場合に，「知っている項目」については，「典型的な症状」183人中175人（95.6%），「検査方法」125人（68.3%），「治療」111人（60.7%），「感染リスク集団」111人（60.7%），「疫学的な知識」47人（25.7%）の順であった．診断と報告については，「レプトスピラ症を診断したことがある」という質問に，「はい」205人中20人（9.8%），「いいえ」177人（86.3%）であった．「報告を行なったことがある」という質問に，「はい」7人（3.4%），「いいえ」188人（91.7%）であった．この「いいえ」の188人に，「未報告の理由・原因」について聞いたところ，「疑うような患者を診たことがない」が134人（71.3%）と最も多かった．「宮崎県の対策への要望」は，「医療従事者に対して発生状況や対策等の情報提供を行って欲しい」が165人（80.5%）と最も多かった．

2．獣医師アンケート結果

　有効回答数および有効回答率は57人（77.0%）であった．認知度は，「イヌのレプトスピラ症を知っている」が57人中56人（98.2%）であった．診断と報告については，「イヌのレプトスピラ症を診断したことがある」という質問に，「はい」57人中42人（73.7%），「いいえ」12人（21.1%）であった．「報告を行なったことがある」という質問に，「はい」22人（38.6%），「いいえ」32人（56.1%）であった．この「いいえ」の32人に「未報告の理由・原因」について聞いたところ，「確定診断のための検査をしなかった」18人（56.3%），「重症例が多く，確定診断をつけることがなかった」13人（40.6%），「検査を提出する手段がなかった」8人（25.0%）等の順であった．「宮崎県の対策への要望」は，「疑い症例に対する検査診断の支援を行って欲しい」が47人（82.5%）と最も多かった．

Ⅳ．考察

1．医師結果の考察

　認知度については，回答した医師の89%が知っているという結果であり，ある程度の認知度はあると考えられた．しかし，知っている項目の結果から，「感染リスク集団」や「疫学的な知識」等の診断に必要な疫学情報が不足していることが示唆された．また，報告をしない理由として，「疑い例を診たことがない」が最も多かったことから鑑別診断に挙げるための知識の不足が背景にある可能性が考えられる.

　調査の背景となる，宮崎県におけるレプトスピラ症の流行[1]と今回の調査結果を踏まえて，診断と報告の効率化を図るためには，医療機関等で勤務する医師に対して積極的な情報提供を行っていくことが必要であると考えられた.

2．獣医師結果の考察

　認知度については，回答した獣医師の98%が知っているという結果であり，かなりの認知度があると考えられた．報告をしない理由として，検査関連の項目が多くあげられていたことから，検査体制が整備されていないことが，報告に影響を与えていた可能性が考えられた.

　イヌのレプトスピラ症についても宮崎県における地域流行が示唆されており[1]，今回の調査結果を踏まえて，今後の診断と報告の効率化を図るためには，動物病院における検査診断支援を行っていくことが必要であると考えられた.

Ⅴ．まとめ

　本研究では宮崎県の医師・獣医師に対してアンケート調査を実施し，その認知度や診断と報告に影響する因子の考察等の結果から今後のレプトスピラ症対策への提言を行った.

　医師については診断につながる疫学情報の不足が背景にあり，積極的な情報提供を行っていくことが必要であると考えられた．獣医師については検査体制の整備が十分ではないことが推測され，動物病院における検査診断支援が必要であると考えられた.

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〈教育報告〉

平成19年度専門課程 II
健康危機管理分野

男性淋菌感染症に関する性感染症定点サーベイランス評価

五十嵐正巳

Evaluation of the Sentinel Surveillance in Japan, concerning Male N. Gonorrhoeae Infection

Masami IKARASHI

Abstract

Objectives: To review Japanese male gonorrhea reports from the nationwide sentinel surveillance system, and Kochi prefecture medical facilities Perform better surveillance site selection in Kochi prefecture to improve gonorrhea reporting. **Methods:** I. We surveyed all 977 sentinels in Japan, and determined how many male gonorrhea cases each sentinel diagnosed from Apr. to Oct. 2006. We determined whether the site was a hospital or a clinic, the primary medical specialty provided, and the population aged 15-64 years in the district where the site was located. II. In Kochi prefecture we reviewed surveillance in all the medical facilities providing 'obstetrics and gynecology,' 'urology,' 'dermatology,' and 'venereal disease.' **Results:** I. In the 977 sentinel settings, clinics reported more cases than hospitals. Sentinels providing mainly urologic services reported the most cases. Sites in administrative districts with higher populations reported more cases. II. In Kochi, surveillance could be improved when two sentinels having more cases were selected. **Conclusion:** If prefectures select clinics which mainly provide urologic services as surveillance sites, they can improve surveillance of male gonorrhea. In Kochi, sentinel surveillance is more representative when two clinics in Kochi city providing urologic services are included.

Keywords: Neisseria gonorrhoeae, sexually transmitted diseases, surveillance, sentinel medical settings, national surveillance system for infectious diseases in Japan

I. 目 的

　サーベイランスとは，継続的，系統的に情報収集することであり，その情報を対策につなげることが理想である[1]．我が国では，感染症法に基づき，感染症発生動向調査が実施されている[2]．同調査では，診断した全医師から届け出を求める全数把握疾患と，予め指定された定点医療機関（以下，定点という）に受療した患者情報を集める定点把握疾患がある．

　しかし，定点配置を議論した研究は少なく[3]，都道府県が定点を選定する際には，医療機関の規模や診療科目を考慮する必要がある[3]が，十分に検討されていない．

　男性では，性感染症定点疾患の中で淋菌感染症が31.2%を占め，男性淋菌感染症の発生動向は定点疾患全体の推移

と概ね一致している．

　そこで，男性淋菌感染症患者を的確に把握するために都道府県が定点設定の際に有効な指針を示すこと，2006年4月から10月までの定点当り男性淋菌感染症報告数が最低であった高知県において男性淋菌感染症患者の受診動向を反映したサーベイランスとなるために定点設定を見直すことの2つを本研究の目的とした．

II. 方 法

1. 男性淋菌感染症を多く報告した定点の特徴

　全国977定点それぞれの病院／診療所，主な医療を提供している診療科目（産婦人科系，泌尿器科，皮膚科，性病科），所在地生産年齢（15-64歳）人口について2006年4月から10月までの男性淋菌感染症報告数を記述した．

2. 高知県全数調査による定点の見直し

　高知県内の産婦人科，産科，婦人科（産婦人科系），性病科，泌尿器科，皮膚科（泌尿器科・皮膚科系）を標榜す

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　　　　　　松井珠乃（国立感染症研究所感染症情報センター）

る全140医療機関を対象にした調査票による調査を行った．男性淋菌感染症報告数が多かった属性を代表する医療機関を優先的に定点とすることで見直した．高知県の泌尿器科・皮膚科系現定点3つをそれぞれA, B, Cとし，見直した後の3定点をA'，B'，C'とした．見直し前後の定点から得られた患者の年齢分布を全数調査で得られた全患者の年齢分布と比較した．

III．結　果

1．男性淋菌感染症を多く報告した定点の特徴

全国977定点において，男性淋菌感染症報告数が病院よりも診療所で多かった（p<0.01）．報告数が産婦人科系よりも泌尿器科，皮膚科，性病科で多かった（p<0.01）．中でも泌尿器科は皮膚科よりも報告数が多かった（p<0.01）．所在地生産年齢人口が大きくなる程，報告数が多い傾向を認めた．

2．高知県全数調査による定点の見直し

有効回答医療機関数は56（40.0％）であった．全数調査で得られた2006年4月から10月までの男性淋菌感染症患者総数は133であった（図1）．

男性淋菌感染症を多く報告した属性は，生産年齢人口10万人以上の地（高知市）に所在し，標榜科目に泌尿器科がある診療所であった．

見直し後の3定点から得られた患者（n=22）の年齢分布（図2）は，全133患者の年齢分布（図1）と相似したが，見直し前の現3定点から得られた患者（n=6）の年齢分布（図3）は，全133患者の年齢分布（図1）と相似しなかった．
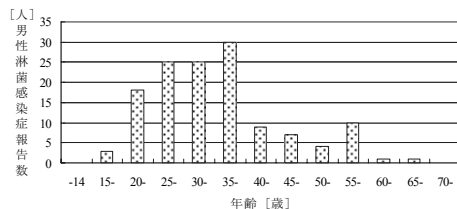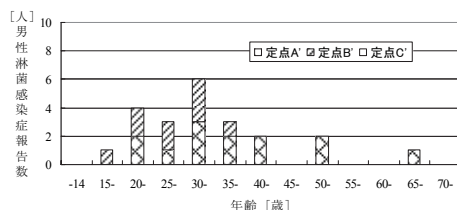

図1．高知県全数調査での全患者（患者総数133）
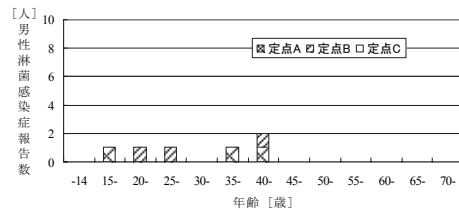

図2．見直し後の3定点からの患者報告（n=22）

図3．見直し前の現3定点からの患者報告（n=6）

IV．考　察

1．男性淋菌感染症を多く報告した定点の特徴

病院よりも診療所で有意に報告数が多く，中でも泌尿器科医療を主に提供している診療所で有意に報告数が多かった．そのため，都道府県が定点を選定する際には，病院よりも診療所を優先し，さらに泌尿器科医療を主に提供している診療所を優先することで男性淋菌感染症患者を効果的に把握することができることが示唆された．

2．高知県全数調査による定点の見直し

高知では，現在の定点によって報告された患者（n=6）の年齢分布からは，高知県での全数調査で得られた全133患者の年齢分布を類推することは不可能であった．そのため，現在の定点設定では，代表性のあるサーベイランスとなっていなかったことが分かった．しかし，定点設定を見直した後に得られた男性淋菌感染症患者の年齢分布は，患者総数133の年齢分布と相似していたため，この見直し後の定点からは，男性淋菌感染症患者の全体像を反映した分布を把握することができる．つまり，高知県では，生産年齢人口10万人以上の地（高知市）に所在する泌尿器科標榜の診療所である属性の中から優先的に定点を選ぶことによって，代表性のあるサーベイランスを実施することができると考えられた．

V．まとめ

・都道府県が男性性感染症に対する定点を選定する際には，病院よりも診療所を優先し，さらに泌尿器科医療を主に提供している診療所を優先することで男性淋菌感染症患者を効果的に把握することができる．

・高知県では，高知市内の泌尿器科を標榜する診療所を優先的に定点とすることによって，男性淋菌感染症患者の全体像を反映した代表性のあるサーベイランスとなる．

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〈教育報告〉

平成19年度専門課程 II
健康危機管理分野

腸管出血性大腸菌の家族内二次感染防止に関する検討

徳田浩一

Prevention of Secondary Household Transmission Associated with Enterohemorrhagic *Escherichia Coli* Outbreaks

Koichi TOKUDA

Abstract

Objectives: To investigate secondary household transmission (SHT) due to EHEC outbreaks in day-care centers (DCCs). To recommend appropriate interventions for local health centers (LHCs) to prevent the spread of infection. **Methods:** Suspected outbreaks of EHEC infection in DCCs were identified from the National Epidemiological Surveillance of Infectious Disease (NESID). Questionnaires were sent to LHCs that may have responded to the outbreaks. Based on the results of questionnaires and the data in NESID, the rates of SHT were calculated and factors affecting the rate of SHT were analyzed by multiple regression analysis. **Results:** Sixteen outbreaks were detected by questionnaires. The rates of SHT ranged from 0.0 through 34.4%. The highest rate was 23.0% among children aged 6-9 years. Infection rate of mothers were significantly higher than fathers and grandparents. By multiple regression analysis, five independent variables such as "the way of providing information to families with EHEC", "type of EHEC", "days taken to provide information", etc. were selected in the best model. **Conclusion:** Early response and hygiene education through visiting LHC staff may be effective measures to prevent secondary spread in EHEC outbreaks. Hygiene education should be emphasized for children 6-9 years old as well as younger children.

Keywords: EHEC, day-care centers, secondary household transmission, prevention of the spread of EHEC infection, multiple regression analysis

Supervisors: Tomoko TACHIBANA, Tomimasa SUNAGAWA

I．目的

腸管出血性大腸菌（EHEC）感染症の年間報告数は，1999年以降3,000〜4,000人にのぼっている．毎年，流行期には高齢者施設や飲食店などの施設における集団感染事例が報告されるが，保育所や託児所からの報告も少なくない[1]．本研究は，保育所および託児所（以後，保育施設）から家庭内への EHEC 持ち込みによる家族内二次感染の実態を把握すること，さらに家族内二次感染に影響を及ぼす要因を検討し，感染拡大防止に有効な対策を提言することを目的とした．

II．調査対象と方法

1．家族内二次感染の実態把握

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　　　　　　砂川富正（国立感染症研究所感染症情報センター）

2006年第1週〜第52週に，保育施設における入所児10人以上の感染者が報告された EHEC 集団感染事例を調査した．まず，感染症サーベイランスシステム（NESID）を用いて，調査対象期間に0〜6歳の EHEC 感染者を10名以上報告した地域を探索した．次に，当該地域を管轄する保健所に対して質問紙を郵送し，調査を実施した．調査内容は，①保育施設における入所児10名以上の EHEC 集団感染事例の有無② EHEC 陽性入所児の情報［年齢，症状の有無等］③ EHEC 陽性入所児の家族情報［家族構成，感染者の有無等］④家庭への感染対策指導実施日⑤指導方法［文書，個別訪問等］，などとした．また，調査で得た感染者の NESID 上の登録番号から，①各事例の発端者の医療機関診断日②医療機関から保健所への報告日③感染者の情報［EHEC 血清群・毒素型等］を NESID より抽出した．家族内二次感染率の算出は，当該施設の入所児が家庭内に1人のみであった家族員を対象とした．差の検定には χ² 検定（あるいは Fisher の正確な検定）を，傾向性の

検定にはコクラン・アーミテージ検定を行った．統計学的な有意水準は5％とした．

2．家族内二次感染に寄与した要因の分析

　目的変数を家族内二次感染率とし，また説明変数を，①医療機関診断から家庭への情報提供までに要した日数②EHEC陽性入所児の平均年齢③EHEC陽性入所児の有症率④EHEC血清群・毒素型⑤EHEC陽性入所児家庭への情報提供方法（初動時）⑥他入所児家庭への情報提供方法（初動時）⑦他入所児家庭への情報提供方法（初動後）⑧平時における家庭への感染対策指導の有無，として重回帰分析を実施した．回帰分析にはSPSS 10.0J（Windows）を用いた．

Ⅲ．結果と考察

1．家族内二次感染の実態把握

　疑いを含む18事例のEHEC集団感染がNESIDより探知され，18保健所に対して質問紙を送付した．全保健所から回答があり（回収率100％），16事例の発生が確認された．家族内二次感染率算出の条件を満たした家族員は751人であり，感染率は事例により0.0％から34.4％であった．性別の感染率は男性7.8％，女性10.7％で有意差はなかった．年齢群別の感染率は6－9歳が23.0％で最も高く，次いで0－5歳15.4％の順であった．全体的な傾向として低年齢であるほど感染率が高値であった（p<0.001）．続柄別の感染率は兄弟が21.3％で最も高く，次いで姉妹18.3％，母親10.0％の順であった．兄弟の感染率は母親と比較して有意に高く，母親の感染率は父親および祖父母と比較して有意に高かった．これは家庭において子供に最も接触機会の多い養育者が通常は母親であることと関連した結果と考えられた．EHEC陽性入所児年齢別の感染率は，低年齢であるほど家族員の感染率が高い傾向がみられたが，4歳以上では逆に年長であるほど家族員の感染率が高かった．要因として，4歳以上の年長児における日常衛生面（排泄・手指衛生など）での不完全な自立との関連が推察される．EHEC陽性入所児の胃腸炎症状の有無でみた感染率は有症群8.2％，無症群9.9％であり，微量の菌数で感染が成立するというEHECの特徴が関連していると思われた．原因菌はO26VT1あるいはO157VT1　VT2の2つに大別され，感染率はO26VT1群8.7％，O157VT1VT2群10.8％で有意差はなかった．

2．家族内二次感染に寄与した要因の分析

　各変数の記述統計量を表1に，重回帰分析で最適モデルとして選択された変数を表2に示す．

表1　回帰分析に用いた変数

目的変数	最小値	中央値	最大値
家庭内二次感染率(%)	0.0	4.4	34.4
説明変数(連続変数)	最小値	中央値	最大値
情報提供に要した日数(日)	0.0	1.0	11.0
EHEC陽性入所児年齢(歳)	1.5	2.8	4.8
EHEC陽性入所有症率(%)	5.0	29.2	93.5
説明変数(質的変数)	N	%	
EHEC型			
O26VT1	11	68.8	
O157VT1VT2	5	31.3	
EHEC陽性入所児家庭への情報提供方法(初動時)			
通知	2	12.5	
個別訪問	14	87.5	
他入所児家庭への情報提供方法（初動時)			
通知	12	75.0	
その他(個別訪問、保護者説明会)	4	25.0	
他入所児家庭への情報提供方法(初動後の対応)			
通知	4	25.0	
その他(個別訪問、保護者説明会)	12	75.0	
平時の家庭対応			
家庭への感染対策指導あり	3	18.8	
家庭への感染対策指導なし	13	81.3	

表2　重回帰分析結果

説明変数	回帰係数	標準誤差	標準化係数	p値
EHEC陽性入所児家庭への情報提供方法(初動時)	-24.647	6.244	-0.685	<0.01
EHEC型	15.330	4.653	0.597	<0.01
EHEC陽性入所児有症率	-0.217	0.074	-0.543	<0.05
情報提供に要した日数	1.251	0.580	0.373	0.056
他入所児家庭への情報提供方法（初動時)	-8.345	4.553	-0.304	0.097

R^2 0.881　　　　自由度修正済R^2　0.664

　重回帰分析から，感染率がより低下する要因や対策として以下の結果を得た．①EHEC陽性入所児のいる家庭への情報提供方法（初動時）として通知のみでなく，個別訪問を行った場合②起因菌がO157VT1VT2でなくO26VT1であった場合③EHEC陽性入所児の有症率がより高かった場合④情報提供までに要した日数がより短期間であった場合⑤他入所児家庭への情報提供方法（初動時）として通知のみでなく，その他（個別訪問あるいは保護者説明会）を行った場合

Ⅳ．まとめ

　家庭への感染対策指導に際しては，家族員による感染率の違いを考慮すべきと考えられた．6～9歳の小児における感染率と，持ち込んだ児が6歳であった場合の家族員の感染率が最も高いことから，就学前から小学生相当の小児に対する衛生教育が強化すべき課題であると思われた．

　集団感染事例発生の可能性が探知された場合，通知のみでなく，個別訪問あるいは保護者説明会による早期対応と感染対策指導が，家族内二次感染による感染拡大防止に有効と考えられた．

文献

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