Comparative Health Survey of Luangpraot-Tanlium and Marialai Communities Lat Krabang District, Bangkok

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Abstract

The objective of the present descriptive study was to investigate the demographic and health status of Thai people in Luangpraot-Tanlium (LPT) and Marialai community (MRL) of Lat Krabang district in Bangkok. These two communities are the pilot project of the "Healthy Community" of Lat Krabang BMA hospital. The total number of households of LPT and MRL are 263 and 240, the population is 957 and 1057, males to female ratio was 1 : 1.2. The median household income of the residents in both communities is 9,000 baht/month/family. About 49 per cent of people have no health insurance and 22 per cent have social welfare (for underserved population). Both communities are comparable in terms of sex, age, marital status, contraceptive use, history of physical examination, chronic diseases and environmental sanitation. MRL has more trade certificate educational attainment, history of Pap smears and voluntary health insurance than LPT. LPT seemed to be prominent to have more governmental employees and governmental subsidised reimbursement for health care access. People of LPT required health and dental care more often from hospital health teams than MRL. They needed annual health check ups, care for chronic diseases and mosquito eradication. LPT also reported more garbage disposal using the burning method, greater use of rain and tap water and significant poorer sewerage and toilet facility systems when compared with MRL. The reported prevalence of chronic diseases are 1.7 fold higher in MRL than in LPT. Percentage of vaccination coverage (BCG, OPV&DPT$_{I\text{-}II\text{-}III}$, HBV $_{I\text{-}II\text{-}III}$, Measles vaccine) among children aged less than 1 year was 100 per cent and 1-5 years was 90 per cent (OPV& DPT$_{IV\text{-}V}$).

Key word : Health Survey, Health Status, Family Medicine

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Lat Krabang district, the second largest district in Bangkok, is in the eastern part of Bangkok. It has an area of 123.86 square kilometres with an average population of 116,844 and population density of 943 people per square kilometre[1]. There are six sub-districts consisting of 46 communities. Of these, one is a slum area, 27 are suburban communities, 16 are communities of flats, and two dispersed villages. Despite being part of the Bangkok Metropolitan Administration (BMA)-the local city government, there are not so many reports about the health status of various communities of Bangkok. Lat Krabang Hospital is a 60-bed community hospital under the BMA health system providing health care for people in this district. In the year 2001, it rendered primary and secondary health care for 116,844 people in this area. The authors' initiative project "Healthy Community" in the congested Luangpraot-Tanlium and the suburban Marialai communities provide an opportunity to document demographic and health status surveys in these two communities. The present report also provided baseline information on health problems, people's perceived needs, and whether there are differences between the two types of communities in terms of their health status. Moreover, the communities are used for the medical residency training programme for family medicine of a medical school. Thus, baseline data on health problems are necessary for the home health care team to serve the people with comprehensive, holistic, and sustainable care for the Government's National Health for All policy.

MATERIAL AND METHOD

A community survey was conducted from May to July 2001. The two communities in the "Healthy Community Project" Luangpraot-Tanlium (LPT) and Marialai (MRL) with 503 households and about 2,014 people were selected for data collection. Of these, 263 households were from LPT and 240 were from MRL. LPT is the only slum area in the district and MRL is one of the 27 suburban communities. Of the residents, 957 and 1,057 were from LPT and MRL respectively. LPT is more densely populated than MRL[1]. Community preperation was carried out using a meeting with the community leaders and the objectives of the project were explained. Trained public health nurses visited all households and heads of households were interviewed using structured questionnaires. Household interviews in which information was collected included demographic variables, health insurance access, health care requirement, reported chronic diseases, etc. Environmental and sanitation status of all household members was also carried out. Data were analyzed using χ^2 test for proportion differences and student's t-test for two means differences, where appropiate. The statistical significance level was set at $\alpha = 0.05$ (two-sided test).

RESULTS

Study population and general profile

A total of 503 households from the two study areas were selected, of these 52.3 per cent were from Luangpraot-Tanlium (LPT). These households included 2,014 people who participated in the study of which 47.6 per cent were from LPT. Of this total, 46.6 per cent were males. Among people aged over 15 years old, 58.7 per cent were married, and 31.3 per cent were single. The number of persons per household ranged from one to eleven (mean $\pm$ SD = 4.0 ± 1.4). All of the study subjects in LPT responded to the interviews while 96 per cent from Marialai (MRL) responded. The major reason for not responding was their unwillingness to be interviewed. The majority of the study population were Buddhists (72.5%), while 24.2 per cent were Catholics, and 3.3 per cent were Muslims. Concerning educational status, 4.1 per cent had no education, 27.3 per cent had on-going education, 63.2 per cent had education attainment, of which 70.2 per cent attained up to the ninth grade. Percentage of the employed population was 72 per cent, 20 per cent were housewives and retired workers, the unemployment rate was 8 per cent. The median household income of residents in both communities was 9,000 baht/family (range 8,000-9,500 baht/month/family); 37.0 per cent of households considered themselves as having debts and 26.7 per cent had some savings. Of the surveyed population, 49.1 per cent had no health insurance, 21.6 per cent had certain types of social welfare support, and 29.3 per cent had access to any type of health insurance such as official and voluntary health insurance.

Only 52.8 per cent of the surveyed households expressed interest in various types of health care. Among these, 126 (48.1%) expressed that they needed an annual physical check up, while 22.5 per cent expressed the need for mosquito control, etc. Regarding the need for dental care, 248 (49.3%) requested a need for dental care. Among children aged less than 1 year 31 (100%) had received BCG, OPV& $DPT_{I\text{-}II\text{-}III}$, $HBV_{I\text{-}II\text{-}III}$, Measles and 148 (90%) of children aged 1-5 years had received OPV&$DPT_{IV\text{-}V}$ vaccination. With regard to contraception use, among

females of reproductive age, 69 per cent (261) reported currently using any kind of contraception, 117 (31.0%) used oral contraceptive pills, 106 (28.0%) had been sterilized, 27 (7.1%) used the injectable, while only six (1.6%) used a condom, implanted pill and IUD. Of people who were 15 years and over (n=1,520), 279 (18.4%) could be regarded as having chronic diseases, of these 70 (4.6%) had hypertension, 54 (3.6%) had diabetes mellitus and 45 (2.9%) had a history of allergy, others had some respiratory, musculo-skeletal, gastro-intestinal, cardiovascular, cerebrovascular diseases, etc.

Information on household surveys revealed that the majority (83.5%) of households were rented, while only 8.9 per cent had their own land and houses. Of these, the sources of potable water supplies were

Table 1. Comparison of demographic and health status between the two surveyed communities.

Variables	Luangpraot-Tanlium	Marialai	p-value
Sex			
Male	448	490	0.87
Female	509	567	
Age (years)			
0-15	239	255	0.61
16-45	513	555	
46-60	108	140	
> 60	97	107	
Occupation			
Employee	307	345	
Self-employed	101	106	
Governmental employee	71	44	< 0.01
Housewives, retired workers	101	169	
Unemployed	69	39	
Marital status			
Currently married	442	468	0.58
Single	237	248	
Widowed/divorced	69	86	
Educational status			
No education	49	33	
Student (pre-primary to graduate degree)	251	299	
Grade 1-6 attainment	349	318	
Grade 7-12 attainment	144	184	
Trade certificate attainment	44	86	< 0.01
Graduates and higher attainment	66	82	
Health care accessibility			
Free governmental support	195	230	< 0.01
Any health insurance	167	255	
Governmental reimbursement	128	50	
No accessibility	467	522	
Contraceptive use in married women (age 15-45 years)			
No contraception	54	63	0.41
Oral pills	66	51	
Sterilization	51	55	
Injectable and others	18	20	
Pap smears among married women (age 15-45 years)			
Annually	11	31	< 0.01
Irregularly	55	87	
Never	123	71	
Breast examination in women (age 15-45 years)			
Regularly	22	24	0.15
Irregularly	76	58	
Never	91	107	

stored rain water (34.0%), filtered water (29%), bottled water (21.0%), and tap water (16.0%). The majority (74.3%) of the total households had no sewerage and 80.4 per cent had access to private latrines.

Comparison of the two communities

Both communities were comparable in terms of sex, age, marital status, contraceptive use among married women, and reported history of breast examinations but were significantly different with regard to occupation, educational attainment, health-care accessibility, and reported history of Pap smears (Table 1). LPT seemed to be more prominent in terms of having more governmental employees, governmental subsidised reimbursement for health care access and unemployed population. MRL had a larger proportion of higher trade certificate educational attainment, housewives, retired workers and had more regular Pap smears.

Upon household surveys (Table 2), LPT significantly perceived more need of general health and dental care services, reported more garbage disposal using the burning method, higher use of rain and tap water. It, however, had significantly poorer sewerage and toilet facility systems when compared with MRL, although the two communities were not significantly different in terms of household flooding or improper water drainage (Table 2).

The reported prevalence of chronic diseases in people aged over 15years (Table 3) was 1.7 fold higher in MRL than in LPT especially for hypertension and allergy (2, 5.8 fold respectively).

DISCUSSION

The baseline demographic characteristics of the surveyed populations were similar to that of Chuprapawon's[2] carried out in Bangkok in 1991, including number of person per family, average monthly family income, population aged over 60 years old, chronic diseases such as hypertension, diabetes mellitus, allergy. There are, however, some differences about higher single marital status (31.3% *vs* 20.4%),

Table 2. Comparison of household surveys between the two communities.*

Variables	Luangpraot-Tanlium	Marialai	p-value
Perceived need for any health care			
Yes	160	102	< 0.01
No	103	138	
Perceived need for any dental care			
Yes	164	84	0.02
No	99	156	
Use of garbage disposal container			
No container	19	13	0.37
Covered container	161	142	
Uncovered container	66	73	
Method of garbage disposals			
Use of BMA vehicles	170	196	
Burning	64	18	< 0.01
Other methods	12	14	
Source of potable water			
Rain water	114	47	< 0.01
Bottled water	47	53	
Filtered water	32	105	
Tap water	53	23	
Sewerage system			
Drained through canal	173	121	< 0.01
Drained under house	32	26	
Using sewerage system	41	81	
Flood or stagnant water under house			
Yes	137	138	0.33
No	109	90	
Toilet facilities			
Public	69	24	< 0.01
Private	177	204	

* Totals vary because of missing values, based on reported households.

Table 3. Reported of chronic diseases found in population aged > 15 years.

	Luangpraot-Tanlium	Marialai
Total population (aged > 15 years)	718	802
Total people with reported chronic diseases	96	183
Hypertension	21	49
Diabetes mellitus	22	32
Allergy	6	39
Respiratory disease	10	14
Musculoskeletal disease	12	17
Gastrointestinal disease	10	18
Cardiovascular disease	8	14
Cerebrovascular disease	2	5
Hyperlipidemia	0	7
Urinary tract disease	0	5
Handicapped	5	0
Others (migraine, thyroid disease epilepsy, neurosis, SLE, CA cervix)	5	19

* Diseases found more than the total because some people had more than one chronic disease.

male: female ratio (1 : 1.2 *vs* 1 : 1.7), people who had had no education (4.1% *vs* 5.9%). The provincial health survey[3] by the Health Department of BMA in 1996 reported 42 per cent of Bangkok people had no health insurance but this study showed a higher population (49%) with no insurance coverage. In October 2001 all of the people in Lat Krabang district will have health insurance by the 30-Baht Government's Health for All policy.

In Marialai (MRL) which is one of the suburban communities in Lat Krabang district, people had higher income/month and educational attainment particularly for vocational level and above. People in MRL had more routine physical check ups before voluntary health insurance than Luangpraot-Tanlium (LPT), which may explain why there were more chronic diseases such as hypertension, allergy, etc; than LPT. Yet, these data need further verification and validation through more thorough clinical examinations and investigations.

On the contrary, LPT is the only slum area in the district with low income and more unemployed people, but noticeably having more official occupations and official health insurance. The people sought for medical care when they were sick so the reported chronic diseases were lower and Pap smear check-up was also less than MRL (37.6% *vs* 65.1%). This survey also showed that people in LPT wanted more general and dental health care from the hospital health team than in MRL. About environmental health, people in LPT still used rain-water, public toilet facilities and burning as the method for waste refusal more than MRL did. These two communities are near Klong Pravetbureerom, despite being in the metropolitan area not enough sewerage systems were available leading to drainage into the canal. Many households had stagnant water under the houses, thus mosquito complaints were one of the major problems. The mosquito control programme, elimination of stagnant water and provision of enough sewerage system are strongly recommended.

The survey of these two communities led the hospital health team to prioritise health problems. Preventive child health services especially the 100 per cent coverage of the expanded programme of vaccination among children aged 1-5 years should be promoted. It is important for health teams to record, for each child, whether immunization has been carried out, and, if so, when and by whom. This function can be done using of computerized recall programmes based on child registers, computerized appointments and recording systems. Health education to all mothers and free vaccines for all children should be provided. The authors recommend that not only preventive health programmes such as annual breast checks, Pap smears, physical examination and check-up but also environmental health may not be sufficiently observed. Water and waste treatment, environmental safety and planning, pollution management, allergen source determination and insect control should be provided. It is important to co-operate with the other departments of the BMA such as the Drainage and Sewerage Department, Public Cleaning Department and Community Development Department of BMA.

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การศึกษาเปรียบเทียบสภาวะสุขภาพของประชาชนในชุมชนหลวงพรต–ท่านเลี่ยมและชุมชนมาเรียลัย เขตลาดกระบังกรุงเทพมหานคร

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คณะผู้วิจัยมีวัตถุประสงค์จะศึกษาเปรียบเทียบสภาวะสุขภาพของประชาชนในโครงการชุมชนสุขภาพดีลาดกระบังกรุงเทพมหานคร คือชุมชนหลวงพรต–ท่านเลี่ยมซึ่งเป็นชุมชนแออัดและชุมชนมาเรียลัยซึ่งเป็นชุมชนชานเมือง ทั้งทางด้านประชากรศาสตร์ เศรษฐกิจ สังคม อนามัยสิ่งแวดล้อม ประวัติโรคเรื้อรังและความต้องการด้านสาธารณสุขของประชากรในชุมชน ได้สำรวจชุมชนหลวงพรต–ท่านเลี่ยม 263 ครอบครัวจำนวน 957 คนและชุมชนมาเรียลัย 240 ครอบครัวจำนวน 1,057 คน อัตราส่วนชาย : หญิง 1 : 1.2 รายได้เฉลี่ยของครอบครัว 9,000 บาทต่อเดือน ไม่มีหลักประกันสุขภาพถึงร้อยละ 49 ของประชากรทั้งหมด ประชาชนมีบัตรสงเคราะห์ผู้มีรายได้น้อยร้อยละ 22 จบการศึกษาแล้วร้อยละ 63 ชุมชนมาเรียลัยมีผู้จบการศึกษาระดับปวช. ปวส. มีประกันสุขภาพเอกชน ประวัติการตรวจมะเร็งปากมดลูกและประวัติโรคเรื้อรังมากกว่าชุมชนหลวงพรต–ท่านเลี่ยม 1.7 เท่า ประชากรชุมชนหลวงพรต–ท่านเลี่ยมประกอบอาชีพรับราชการ ผู้ไม่มีงานทำและต้องการความช่วยเหลือทางด้านสาธารณสุขทั่วไปและทันตสาธารณสุขมากกว่าชุมชนมาเรียลัย 1.5 และ 2 เท่าตามลำดับ เด็กอายุน้อยกว่า 1 ปีร้อยละ 100 ได้รับวัคซีนป้องกันวัณโรค โปลิโอ คอตีบ ไอกรน บาดทะยัก หัดและไวรัสตับอักเสบบีครบตามเกณฑ์ เด็กอายุ 1–5 ปี ได้รับวัคซีนป้องกันโปลิโอ คอตีบ ไอกรน บาดทะยักครั้งที่ 4 และ 5 ร้อยละ 90 ทั้งสองชุมชน สำหรับสภาวะแวดล้อมทั่วไปจะเห็นว่าทั้งสองชุมชนยังมีปัญหาเรื่องน้ำขังบริเวณรอบบ้าน เนื่องจากไม่มีท่อระบายน้ำ ชุมชนหลวงพรต–ท่านเลี่ยมยังใช้น้ำดื่มจากน้ำฝนและน้ำประปา ยังมีการกำจัดขยะที่ไม่ถูกสุขลักษณะและไม่มีส้วมเป็นของครอบครัวถึงร้อยละ 28

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