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The study of family planning and self-health monitoring for factory workers : a preliminary report

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The study of family planning and self-health monitoring for factory workers : a preliminary report.

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The aim of this health service research was to find a sustainable and self-perpetual appropriate family planning service model for factory workers. The model uses existing factory personnel to deliver both knowledge and family planning services to workers with the factory's own financial support. The study was done in 2 factories in Samuthprakarn province and 2 other factories in Pathumthani province. The preliminary data survey was performed focusing on the knowledge, attitudes and practice of family planning among workers and also the locations of family planning service before the program was implemented. The survey was done by sampling 10% of the workers from each factory who were interviewed by well-trained interviewers using a well-constructed questionnaire. A total of 1,444 workers interviewed. There were 1,230 female (14.9% of total female workers) and 214 male (12.4% of total male workers). The average age of the female and male workers was 24 and 26 years respectively. 46% of the workers were single, 54% were married, 41.6% of those who were married had no child, 39.4% had one child and 19% had two or more children.

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The study revealed that 39% of the female workers were practicing contraception, 14% had practiced but had quit and 46% had never practiced. The Contraceptive Prevalence Rate (CPR) was 74.5 %. The most popular contraceptive method among female workers was oral pills (65% prevalence) and for male workers was the condom (35% prevalence). Up to 60% of both female and male workers bought oral pills from drugstores and only 8% from the factory's service outlet. Regarding the condom users, 75% of both female and male workers bought condoms from drugstores and only 2% obtained condoms from the factory's service outlet. The reason for the unpopularity of the factory service outlet was that few methods that were currently used by workers were available and only some of factories provided the service. If there were preferable contraceptive methods available within the factory, the workers were more willing to use the factory service rather than government service or drugstores. For knowledge about contraceptive methods among both sexes, there was no difference among current users, ever users and those who never used contraception. Female workers knew better about the standard contraceptive methods in the National Family Planning Programme than male workers, except for the use of condoms. For knowledge about sexually transmitted diseases and AIDS, male workers were better informed than the females. Ever users and never users were better informed than current users in both sexes. This study suggests that there should be improvement in factory-based family planning services and factory nurses should be able to provide proper family planning services and proper counselling to workers. Thus the workers would have fast and reliable service without work interference. There should also be improvement in the educational media about family planning methods for workers. The government should promote drugstores to be able to deliver good family planning service and also be able to provide related advice to customers, especially about condoms and oral pills. Finally, the private sector should take more part in sterilization and IUD services in support of government efforts.

Key words: *Family planning, Factory workers, Contraceptive methods, Health promotion, Family planning outlets.*

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สัญญา ภัทรราชย์, ยุพา อ่อนท้วม, นันทา อ่วมกุล, ถนิมภรณ์ นิลกาญจน์, ดวงประทีป ไตรสุรัตน์, มลิ นิษรัตน์, เอื้อมพร คชการ, จงกล ตั้งอุสาหะ, บุญเทียม เทพพิทักษ์ศักดิ์, ชุศรี ผลเพิ่ม, สุวรรณ วรคามิน. การศึกษาวิจัยการให้บริการวางแผนครอบครัวและเฝ้าระวังสุขภาพตนเองในโรงงานอุตสาหกรรม : รายงานเบื้องต้น. จุฬาลงกรณ์เวชสาร 2538 พฤศจิกายน;39(11),799-812

เป็นการศึกษารูปแบบการให้บริการสาธารณสุข (Health Service Research) เพื่อหา รูปแบบการให้บริการวางแผนครอบครัวที่เหมาะสม โดยพึ่งตนเองเป็นหลัก (Privatization) ใช้ บุคลากรที่มีอยู่แล้วของโรงงานเป็นผู้ให้ความรู้และให้บริการวิธีคุมกำเนิดทุกวิธีที่คณงานต้องการ โดยเสียค่าใช้จ่ายเองในโรงงานอุตสาหกรรม 4 แห่งในจังหวัดสมุทรปราการและจังหวัดปทุมธานี จังหวัดละ 2 แห่ง โดยศึกษาความรู้ทัศนคติและการใช้วิธีคุมกำเนิดและสถานที่รับบริการก่อนการนำ วิธีคุมกำเนิดเข้าในโรงงาน ใช้การสัมภาษณ์โดยสุ่มตัวอย่างคณงานหญิงและชายจำนวน 10-15% ของคณงานในแต่ละโรงงาน จากการสัมภาษณ์คณงานทั้งหมด 1,444 คน เป็นหญิง 1,230 คน (14.9%) และชาย 214 คน (12.4%) คณงานหญิงมีอายุเฉลี่ย 25 ปี และคณงานชายอายุเฉลี่ย 26 ปี เป็น โสด 46% แต่งงานแล้ว 54% ในจำนวนผู้ที่แต่งงานแล้ว 41.6% ไม่มีบุตรเลย 39.4% มีบุตร 1 คน และ 19% มีบุตรตั้งแต่สองคนขึ้นไป

ผลการศึกษาพบว่าคณงานหญิงทั้งหมดมีผู้ที่กำลังใช้วิธีคุมกำเนิดอยู่ประมาณ 39% มีผู้ที่ เคยใช้และปัจจุบันเลิกใช้วิธีคุมกำเนิดแล้ว 14% ไม่เคยใช้เลย 46% อัตราคุมกำเนิด 74.5% วิธี คุมกำเนิดที่เป็นที่นิยมมากที่สุดของคณงานหญิงคือใช้ยาเม็ดคุมกำเนิด 65% ส่วนคณงานชายคือ ถุงยางอนามัย 35% ในเรื่องยาเม็ดคุมกำเนิดทั้งคณงานหญิงและชายนิยมซื้อจากร้านขายยาถึง 60% และใช้บริการจากสถานพยาบาลในโรงงานเพียง 8% ในเรื่องของถุงยางอนามัยนั้น ทั้งคณงานหญิง และชายซื้อจากร้านขายยาถึง 70% และรับจากสถานพยาบาลในโรงงานเพียง 2% ทั้งนี้เพราะไม่มี ยาที่ต้องการและโรงงานบางแห่งยังไม่ให้บริการให้ ถ้ามีบริการคุมกำเนิดที่คณงานต้องการคณงาน ส่วนใหญ่ยินดีมารับบริการที่โรงงานเพราะสะดวกกว่าที่จะไปโรงพยาบาลของรัฐหรือร้านขายยา ใน เรื่องความรู้เกี่ยวกับวิธีคุมกำเนิด กลุ่มที่กำลังใช้ เคยใช้และไม่เคยใช้มีความรู้ไม่แตกต่างกันทั้ง คณงานหญิงและชาย คณงานหญิงมีความรู้เกี่ยวกับวิธีคุมกำเนิดที่มีอยู่ในโครงการวางแผนครอบครัว แห่งชาติมากกว่าคณงานชายยกเว้นเรื่องถุงยางอนามัย ในส่วนของความรู้เกี่ยวกับโรคติดต่อทางเพศ สัมพันธ์และโรคเอดส์ พบว่าโดยทั่วไปคณงานชายจะมีความรู้มากกว่าคณงานหญิง กลุ่มที่เคยใช้และ กลุ่มที่ไม่เคยใช้จะมีความรู้มากกว่ากลุ่มที่กำลังใช้ทั้งในคณงานชายและคณงานหญิง ข้อเสนอแนะ สำหรับการวิจัยเบื้องต้นครั้งนี้คือควรเพิ่มหรือปรับปรุงสถานพยาบาลในโรงงานให้ดีขึ้น และอบรม ผู้ให้บริการซึ่งเป็นพยาบาลของโรงงานให้สามารถให้บริการคุมกำเนิดและให้คำปรึกษาได้ และ พัฒนาสื่อเกี่ยวกับวิธีคุมกำเนิดชนิดต่างๆ เพื่อให้ความรู้แก่คณงาน รัฐควรดูแลร้านขายยาให้มีความ รู้ความสามารถแนะนำลูกค้าได้ถูกต้อง โดยเฉพาะยาเม็ดคุมกำเนิดและถุงยางอนามัย สุดท้ายภาค เอกชนควรเพิ่มบทบาทในการให้บริการทำหมันและใส่ห่วงอนามัยเพื่อเป็นการสนับสนุนบริการภาครัฐ

Acceleration of Thailand's socioeconomic development began in 1960. The National Socioeconomic Development Plan's have been implemented and have brought the country to a state of fast economic growth at the annual rate of 8% through 1989. The average expansion of the industrial sector reached 12% causing influx migration of rural populations into large cities to become industrial workers. In 1991, there were 3,374 new factories licensed by the Department of Industry. In 1992 the country's economic boom began to fade but there still were 2,287 new factories licensed. Thus, the Public Health Service systems of the country need to be reviewed.

The industrial work system is quite different from the agricultural one. The industry work time is divided into shifts which are cyclically continuous. Unlike the government work system, the industrial workers have totally different work times. Since most of the government health service outlets are open only during official hours, this creates considerable inconvenience to the workers on the daytime workshift. Worker's absence to receive medical services is discouraged by factory owners. Consequently, the workers prefer using the private sector health services according to the convenience of their work hours but still there is a question to be answered. Do most of them receive appropriate health services including diseases prevention and health promotion and do also they gain access to necessary health-related information for themselves and their families ?

At present, some factories provide medical services inside their plants as they are required by the law. Most of the in-plant medical services

are intended to treat minor illnesses and injuries with minimal intention toward health promotion. Health promotion or preventive measure is certainly more cost effective and proven to be more desirable than curative measures. Healthy workers are more productive and help improve the factory's profit and are also beneficial to the country's economics as a whole.

Objective

The objective of the study is to find the preliminary data about the knowledge, attitude and practice of family planning and sexually transmitted diseases including AIDS among factory workers to be used as baseline data when the whole project is finished.

Materials and Methods

Four factories participated in the study, two were large factories with more than 2,000 workers. These were the Seagate Factory in Pathumthani and the Body Fashion Factory in Samuthprakarn. The other two were medium-sized factories with less than 1,000 workers; the NEC Factory in Pathumthani and the Thai Agrifoods Factory in Samuthprakarn. 10-15% of workers of both sexes from each factory were drawn by the stratified sampling technique and directly interviewed. The interviewers were health officers with interview and data collection experience. The questionnaire had been carefully constructed.

Results

The total number of interviewed workers from the 4 factories was 1,444; 1,230 were female

workers (85.2%) and 214 were male workers as shown in table 1.

Regarding the marital status, 52.6% of the female workers were married while 40.2% of the male workers were married. 3.3% of the female workers were divorced/separate/widowed while

the corresponding figure for the males was only 0.9%.

The ages of both male and female workers were quite comparable. The average age for female workers was 25 ± 4.2 , (range 15-52 years) and for male workers the average was 26 ± 4.7 , (range 14-48 years), as shown in table 2.

Table 1. Numbers and percentage of workers.

	Samples		Total Workers	
	Female (% of Total Female)	Male (% of Total Male)	Female (% of Total Workers)	Male (% of Total Workers)
Body fashion	370 (16.8)	11 (11.0)	2,200 (95.7)	100 (4.3)
Thai agrifoods	307 (20.5)	95 (9.5)	1,500 (60.0)	1,000 (40.0)
Seagate	438 (10.4)	62 (13.2)	4,230 (90.0)	470 (10.0)
NEC	115 (33.0)	46 (28.4)	349 (68.3)	162 (31.7)
Total	1,230 (14.9)	214 (12.4)	8,279 (82.7)	1,732 (17.3)

Table 2. Status and average age.

	Female N = 1,230	Male N=214	Total N=1,444 (100%)
Single	542 (44.1%)	126 (58.9%)	668 (46.3%)
Married	647 (52.6%)	86 (40.2%)	733 (50.8%)
Div./Sep./Wid.*	41 (3.3%)	2 (0.9%)	43 (2.9%)
Aver.age \pm SD(yrs.)	25 \pm 4.2	26 \pm 4.7	-
Range (yrs.)	15 - 52	14 - 48	-

*Divorced/Separate/Widowed

**Some interviews may come each of the same couple.

53.7% of workers of both sexes were married or ever married, 41.6% of which were childless, 39.4% having one child and 19% having two or more children as shown in table 3.

For health in general, most workers were healthy. 79.4% of the male workers reported that they were healthy while 69.0% of the female workers also reported the same. Some minor illnesses were reported, for example gastrointestinal, respiratory and musculoskeletal complaints as shown in table 4.

Table 3. Number of children of workers.

Single	668 (46.3%)
Ever married	776 (53.7%)
- Childless	- 323 (41.6%)
- 1 Child	- 306 (39.4%)
- >2 Children	- 147 (19.0%)

Table 4. General health conditions and common illnesses.

	Female (N=1,230)	Male (N =214)
Healthy	849(69.0%)	170 (79.4%)
Gastrointestinal illness	92 (7.5%)	7 (3.3%)
Respiratory illness	89 (7.2%)	21 (9.8%)
Neuromuscular illness	95 (7.7%)	6 (2.8%)
Others	105 (8.6%)	10 (4.7%)
Total	1,230(100.0%)	214(100.0%)

For family planning and birth control, the investigators divided the workers into 3 groups. The first group were workers currently practicing one or more methods of birth control (current users). The second group were workers who had previously used one or more methods of birth control but had now quit (ever users). The third group were workers who had never used any method of birth control (never users). Among married female workers, 72.2% were current users, 21.8% were ever users and 6.0% were never users. Among unmarried female workers, 2.0% were current users, 0.4% were ever users, and 97.6%

were never users. 9.8% of the female workers who were divorced, separated or widowed were current users, 80.5% were ever users and 9.7% were never users, respectively. Among married male workers, 70.9% were current users, 16.3% were ever users and 12.8% were never users. Among unmarried male workers, 26.2% were current users, 9.5% were ever users and 64.3% were never users. There were only 2 male workers in the divorced/separate/widowed group and both were current users. The Contraceptive Prevalence Rate (CPR) for female workers was 74.5 % as shown in table 5.

Table 5. Family planning status of workers.

Female				
Marital Status	% Current Users N=482	% Ever Users N=176	% Never Users N=572	% Total N=1,230
Single (542)	2.0	0.4	97.6	100.0
Married (647)	72.2	21.8	6.0	100.0
Div./Sep./Wid.* (41)	9.8	80.5	9.7	100.0
Male				
	N=94	N=28	N=92	N=214
Single (126)	26.2	9.5	64.3	100.0
Married (86)	70.9	16.3	12.8	100.0
Div./Sep./Wid.* (2)	--	100.0	--	100.0

* Divorced/Separate/Widowed

$$\begin{aligned}
 \text{Contraceptive prevalence} &= \frac{\text{No. of female workers using contraceptive methods}}{\text{No. of female workers at risk of pregnancy}} \% \\
 \text{among female workers (CPR)} &= \frac{482 \times 100}{647} \\
 &= 74.5 \%
 \end{aligned}$$

The most popular contraceptive method among workers was the oral pills, with a prevalence of 65.1% and 40.4% among females and males respectively. Ranked second after the oral pills was the injectables followed by female sterilization and the IUD. Condom was also a popular contraceptive method among male workers with a prevalence of 35.1% of male current users. Other contraceptive methods practiced among

workers were the withdrawal method, periodic abstinence, post-coital pill and also the implant. 4.4% of the female current users and 6.4% of the male current users were practicing more than one method of contraception, for example condoms with periodic abstinence; oral pills with periodic abstinence; condoms with withdrawal and periodic abstinence etc. as shown in table 6.

Table 6. Contraceptive methods currently used by workers.

Method*	Female (N=482) (%)	Male (N=94) (%)
Oral pills	65.1	40.4
Injectables	9.5	7.4
Female sterilization	6.6	2.1
IUD	4.4	2.1
Condoms	2.5	35.1
Withdrawal	3.5	1.1
Periodic abstinence	1.5	3.2
Male sterilization	1.9	1.1
Postcoital pills	0.4	1.1
Implant	0.2	--
Using > 1 Methods**	4.4	6.4
Total	100.0	100.0

* An interviewee was asked about his or her contraceptive method(s) being used and also the method(s) used by his or her spouse.

** Condoms + Periodic Abstinence,
Oral Pills + Periodic Abstinence,
Condoms + Withdrawal + Periodic Abstinence.

Family planning services for workers could be obtained in six locations: drugstores, private clinics, private hospitals, factory medical service outlets, government hospitals and district health stations. For condoms and oral pills, most of the users acquired them from drugstores (75.0% and 60.2% respectively). Less popular places for acquisition were private clinics, district health stations and factory outlets. Both government and private hospitals were not effective in providing condoms and oral pills to workers. For the injectables, the most popular places of acquisition were private clinics (54.5%). Less popular were

the district health stations (16.4%) and the factory outlets (12.7%). For the IUD, most services were performed by government hospitals (82.6%). Less popular were the district health stations and private hospitals. There was not a single IUD insertion serviced by private clinics, drugstores or factory medical units. For permanent contraceptive methods, most services were performed by government hospitals (73.5%). Less popular were private clinics and private hospitals. For the implant, all of the cases were performed by the government hospitals, as shown in table 7.

Table 7. Places of family planning service delivery for workers.

Delivery Outlets	Oral Pills (N=352) %	Injectables (N=53) %	Condoms (N=45) %	IUD (N=23) %	Implant (N=2) %	Sterilization (N=44) %
Drugstores	61.9	--	69.6	--	--	--
Private Clinics	19.6	56.6	4.4	--	--	10.6
Private Hospitals	1.4	7.5	2.2	4.3	--	10.0
Factory's Outlets	8.0	15.1	2.2	--	--	--
Govt. Hospitals	2.6	--	9.4	82.6	100.0	73.5
Health Stations	9.1	17.0	11.4	17.4	--	--
Others	0.3	--	2.2	--	--	7.2

*A worker may receive one method from more than one outlet.

Regarding knowledge involving contraceptive methods, workers of both sexes knew more than one method including methods that were not supported by the National Family Planning Programme (NFPP). Female workers tended to know more about official contraceptive methods (those supported by the NFPP) than the male workers, except for the condom. However, the male workers knew more about the unofficial methods (those not supported by the NFPP) than the female workers for example 55.6% of the male workers knew about the withdrawal method while only 38.7% of the female workers knew about it. 44.9% of the male workers knew about the post-coital pill while only 36.0% of the female workers knew about it. Overall, the contraceptive method

most recognized by the workers was the oral pill which was known by 96.2% of female workers and 87.9% of male workers. The second most well known method was the injectables which was known by 81.3% of female workers and 70.1% of male workers. 74.7% of the female workers knew about the condom while 91.6% of male workers knew it. The less well known contraceptive methods were the IUD, female sterilization and vasectomy, respectively. The least well known contraceptive methods were the implant and the methods that were not supported by the NFPP. Only 39.3% of the female workers and 31.8% of the male workers knew about the implant. Workers' knowledge about contraceptive methods is shown in table 8.

Table 8. Workers knowledge about various contraceptive methods.

Contraceptive methods*	Female (N=1,230)	Male (N=214)
	%	%
Oral pills	96.2	87.9
Injectables	81.3	70.1
Condoms	74.7	91.6
IUD	67.3	60.7
Female sterilization	73.0	65.9
Male sterilization	66.1	70.1
Implant	39.3	31.8
Postcoital pills	36.0	44.9
Withdrawal	38.7	55.6
Periodic abstinence	36.1	43.0

*One worker may know more than one method.

For the knowledge about the sexually transmitted diseases and AIDS, male workers knew better than female. The ever users group

knew better than the current users and the never users, as shown in table 9.

Table 9. Workers knowledge of sexually transmitted diseases and AIDS comparing between current users, ever users and never users (of contraceptive methods.)

Diseases	Female (N=1,230)			Male (N=214)		
	% Current users (N=482)	% Ever users (N=176)	% Never users (N=572)	% Current users (N=94)	% Ever users (N=28)	% Never users (N=92)
- Sexually transmitted diseases	65.6	71.6	73.8	77.7	96.4	83.7
- AIDS	84.0	86.4	90.7	84.0	96.4	90.2

% = Percent reported to know or ever contracted the diseases.

When asked whether they were willing to use the family planning services provided in the factory, most of the workers responded that they would. 77.7% of the female workers and 67.2% of the male workers said that they were willing to use the factory services. Some of the workers

didn't want to use factory services though. Their reasons were: personal reasons, desiring sterilization, afraid of the methods' side effects, separate/divorced, undecided, did not want to change method, wanting to become pregnant, etc., as shown in table 10.

Table 10. Workers' opinions about using factory's family planning services "If there is family planning service in your factory, will you use it?"

Answers and reasons	Female (N=1,132)	Male (N=192)
	%	%
- Yes	77.7	67.2
- No : Dont want to change method.	7.0	9.9
: Pregnancy wanting.	3.9	2.1
: Others*	11.4	20.8

*Personal reasons, Wanting sterilization, Afraid of drug's side effects, Divorced/Separate, Undecided etc.

Discussion

Thailand's rapid change from an agricultural country to become a Newly Industrialized Country (NIC) has created immense alterations in social structure, economics and demography as has occurred in many other Asian countries. The national public health policy has also been affected by this change. Many countries consider the health of the industrial workers as the main target of national health policy. Since most Thai workers were young and fertile, they were considered the primary target for the National Family Planning Programme. Many countries have researched family planning services for factory workers, including Thailand.^(1,2,6-11)

This study of family planning service and a self-health monitoring system for factory workers

has examined baseline data about knowledge, attitude and the practice of contraception and also about sexually transmitted diseases and AIDS among factory workers. This baseline data will be compared with the data set at the end of the project. Baseline data from this study has yielded results somewhat similar to other previous studies. For instance this study revealed that about half of the workers were married and there were some extramarital sexual activities among unmarried workers as reported by 2.4% of the unmarried female workers and 35.7% of the unmarried male workers were practicing or had ever practiced contraception. This corresponds to the previous study.⁽²⁾

The prevalence of contraception among the workers was also similar to the national figure

as reported in the National Survey of Demography and Health and that was around 75%.⁽³⁾ However, this is still lower than the goal of the 7th plan which had been set at 77%. Also, the investigators expected to see a contraceptive prevalence rate higher than 75%. The most striking findings from this study were the more popular methods of contraception and the places of service. All three of the most popular contraceptive methods were obtained from the private sector. These were oral pills, condoms and injectables. This reflects the crucial role of the private sector in the family planning activities of the country. On the contrary, it reflects the unpopularity of the government service outlets. There are many reasons for the workers not using the government services. First, the workhours overlap. Second, the government service is not as favorable as the private sectors. Another survey of non-working housewives which was done together with this study gave different information.⁽⁴⁾ It showed that non-working housewives used family planning services from the government outlets in a strikingly higher proportion than the factory workers. Another interesting finding was that both the permanent and semi-permanent contraceptive methods were very unpopular among the factory workers. In the 7th National Family Planning Plan, the goal for use of the permanent method was set at 34% since it was safe and very cost-effective. Our study revealed that the private sector provided very little permanent contraception to the factory workers. Almost all of the sterilizations of the workers were done by the government services. A conclusion can be drawn from this study that if the permanent and semi-permanent contracep-

tive methods were to be successfully promoted, two changes must occur. First the government service outlets must be expanded to reach more of the workers and the service coverage broadened. Second, the private sector must be encouraged to provide more permanent and semi-permanent contraceptive methods. At present many programs have been initiated in line with this policy.

Oral pill is the most popular method of contraception not only among factory workers, but also through the whole population as well.⁽⁵⁾ This is because the oral pills are readily available in every drugstore. Also, they are extremely effective and need no prescription. But there are some precautions about using the pills. If not taken correctly, some failures may occur, and they may cause some side effects in some women. For some women they are contraindicated. The users should be informed about correct use of the pill and how to obtain the highest effectiveness and safety. Data from this study disclosed that factory workers most frequently bought the oral pills from drugstores. Thus the government should seek cooperation from drugstores and also promote them so as to be able to give proper advice to customers and also be able to screen the contraindicated customers. The drugstores should be encouraged to monitor complications from incorrect usage of the pills. This also applies to the users of condoms.

The implant was not so popular among the factory workers as only 39.3% of the female workers and 31.8% of the male workers knew of this method. The government should provide more information about this method to the workers and also promote the private sector to provide service.

The provision of oral pills and condoms in the factory is a helpful innovation to the problem. A the factory nurse can give the injection. This study revealed that most of the workers were willing to use the in-plant service because it was more convenient and time-saving. The factory owners also benefitted because there is less absenteeism. The workers are healthier and work more effectively. The factory's production thus increases.

There should be more education to the workers about sexually transmitted diseases and AIDS. Data from this study revealed that the female workers knew less than male workers in this topic. The reason is likely to be that male workers tend to have more information about this topic. Male workers had more extramarital sex activities than the female workers. This included contact with commercial sex workers and subsequent contracting of sexually transmitted diseases. Since there has been extensive reporting about AIDS everywhere, the workers tended to know about AIDS more than other STDs. Extensive health education in the factory may be more productive than the service delivery itself.⁽⁸⁾

Conclusion

This has been a preliminary study of the family planning and self-health monitoring for factory workers in which the baseline data of the workers concerning their knowledge, attitude and practice of family planning and sexually transmitted diseases were collected and summarized so as to be compared with the same data at the end of the project. The preliminary study revealed that the workers of both sexes require a family planning service of good quality and also an

informative health education program. Concurrently, the workers mostly use the family planning services of the private sector, for example drugstores, private clinics and private hospitals. Oral pills, injectables and condoms were the most popular methods of contraception among workers. The implant and the IUD were minimally used by the workers and the services were exclusively provided by government outlets. The CPR of the female workers approached the national figure but was still lower than the goal of the 7th National Family Planning Plan. The Government should promote the private sector to take more part in providing family planning services to factory workers particularly regarding the implant and the IUD. Also, the private sector should be supported to be able to give proper counselling to workers according to the governments policy. The government should help establish a sustainable family planning service in factories in order to provide a convenient service outlet for family planning and other health promotion activities for the workers.

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References

1. Sattayudh P. The Study of Knowledge, Attitude and Practice in Fertility Health Behaviour of the Adolescent Workers in Pathumthani. The Family Health Division, Department of Health. Ministry of Public Health, Bangkok; Aug. 1991.
2. Muangman D. Adolescent fertility study in Thailand. *Concern* 1980 Jul-Sep; (18):19-20
3. Institute of Demography, Chulalongkorn University. Report of Demography and Health Survey of Thailand, 1987.
4. Institute of Health Research Chulalongkorn University. The survey of knowledge, attitude and practice in family planning of housewives in Pathumthani 1993. (unpublished).
5. Analysis and Evaluation Section, Family Health Division, Department of Health. The 1991,1992 and 1993 Annual Report on the Evaluation of the National Family Planning Programme. Bangkok:1994.
6. Darmokusumo HV. Improving productivity levels: family planning services for factory workers. *Integration* 1989 Oct; (21):32-7
7. Korean Institute for Population and Health. Knowledge and attitude on population and sex among unmarried female workers in Korea: a research report to WHO.;Seoul, Korea, Republic of, Korean Institute for Population and Health, 1984.
8. Allyne C, Sealy E, Russel-Brown P. Final report. Strategies for Increasing Contraceptive Use in Factories in Barbados. BFPA (Barbados Family Planning Association). Contract No. C187.53A, October 1, 1987-September 13, 1989. St. Michael, Barbados, BFPA, 1990 May,; 4,v, 30,;19p. USAID Contract No. DPE-3030-C-00-4074-00; Operations Research to Improve Family Planning and Maternal-Child Health Delivery Systems in Latin America and the Caribbean;INOPAL.
9. Logan D. Developing a self-financing, factory-based contraceptive distribution project in St. Lucia. Washington, D.C., TvT Associates, MORE Project, 1990 Mar.; 2, 26, ;12 p. USAID Contract No. DPE-3030-C-00-8167.
10. Irwin K, Bertrand J, Mibandumba N, Mbuyi K, Muremeri C, Mukoka M, Munkolenkole K, Nzilambi N, bosenge N, Ryder R. Knowledge, attitudes and beliefs about HIV infection and AIDS among healthy factory workers and their wives, Kinshasa, Zaire, *Soc Sci Med* 1991;32 (8):917-30
11. Employers Confederation of the Philippines; ECOP. The ECOP-ILO Population Education Program: a report on program implementation (January 1985 - December 1986). Philippines : 1986 (Unpublished)