AN EPIDEMIOLOGIC SURVEY ON THE HEALTH STATUS OF 100 FEMALE FACTORY WORKERS

by

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Introduction

With industrialisation, urban development and the process of seeking jobs, there is a substantial migration of the working population from the rural areas to the cities. A majority of them previously being farmers and leading a rather less hectic country life, now on migration to the cities, have to change their life style and possibly their values to try to adapt to city life. As such, problems both physical and psychological and possibly those socioeconomic in nature may be encountered.

The aim of this survey was to look at the general health status of the Malay female factory workers. In an attempt to look at both the social and psychological adaptation to a totally different way of life, a survey on a sample of 100 Malay female factory workers from the age group 17-38 years was undertaken in August 1982.

Material And Methods

To facilitate ease of getting the participants, 2 squatter areas in Kuala Lumpur were selected for this survey - Sungei Way and Kampong Kerinci. The youth leaders of both areas were briefed as to the aims of the study and their help requested to get the participants.

Each morning a batch of 10 girls was briefed before transporting them to the University Hospital for the health survey. At the hospital each of the girls were separately interviewed on their socioeconomic background. Then each one of them was sent in to the examination room. To avoid problems, only female doctors participated in this project.

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The protocol was divided into 4 parts :

(i) symptomatology;
(ii) family history;
(iii) physical examination; and
(iv) investigations.

Each of the participants were asked questions on the various symptoms listed in the protocol (Table I). A detailed family history was also taken. The participants' past medical history, particularly pertaining to immunisations during their childhood period was also included.

A full physical examination, including height and weight and blood pressure recordings was carried out routinely on all the participants (Table II).

Certain relevant specific investigations were done. As a routine, blood hemoglobin to look for anaemia, urine tests for screening of diabetes and kidney disease, and stool examination to look for worm infestations were done.

Because tuberculosis of the lungs is still prevalent in this country, chest x-rays were done routinely for all the participants who have not had chest x-rays in the last three months before the survey (Table III).

Results

The majority of the girls (50%) had suffered from period pains (dysmenorrhoea) at some time of their reproductive life. 33.3% of the participants had a history of headache. 5.1% had epigastric pain (Table IV). Table V shows that child health care with particular reference to immunisations was fairly satisfactory. The survey showed that 97% of the girls had their BCG vaccinations during their childhood; 90.9% had small pox vaccination; 38.4% had polio vaccines; 30.3% had DPT.

TABLE I: SYMPTOMATOLOGY

Present History	
Headache	Constipation
Visual Disturbance	Diarrhoea
Generalised malaise	Insomnia
Loss of appetite	Dysmenorrhoea
Loss of weight	Skin disease
Fever	Dysuria
Palpitations	Pruritus
Cough	Vaginal discharge
Epigastric pain	Problems at work
	Depression/Neurosis
Detailed Family History	
Past Medical History	
Immunisations	

TABLE II: SIGNS

SIGNS
Height and weight
Blood pressure
Pulse rate
Cardiovascular system
Respiratory system
Abdominal Examination
Lymphnodes
Central Nervous system examination
Neck

TABLE III: INVESTIGATIONS

Blood - Full Blood Count
- Urea/electrolytes
- Blood serology
Urinalysis
Stools
Chest x-ray
Electrocardiogram
Vaginal examination (where relevant)

TABLE IV: SYMPTOMATOLOGY*

Symptoms	Percentage	(No. of cases)
Period pains (dysmenorrhoea)	50	(50)
Headache	33.3	(33)
Cough	10.1	(10)
Itching	9.1	(9)
Visual disturbance	9.1	(9)
Skin disease	7.1	(7)
Epigastric pain	5.1	(5)
Lethargy	3	(3)
Loss of appetite	2	(2)
Loss of weight	2	(2)
Painful urination	2	(2)
Constipation	1	(1)
Insomnia	1	(1)
Fever	1	(1)
Palpitations	1	(1)
Problems at work	27	(27)
Depression/Neurosis	10.1	(10)

Note:

* What the patient complains of

TABLE V: EVIDENCE OF CHILD HEALTH CARE

Immunisations	Percentage of girls who were immunised
BCG	97
Smallpox	90.9
Polio	38.4
DPT (triple antigen)	30.3

Table VI shows that nearly one-third of the girls had a family history of hypertension, however a family history of diabetes only occurs in 8.4%. From the inquiry into the family history, tuberculosis is still quite prevalent in the country - accounting for about 5.3% of the participants' family.

A family history of cancer is pretty low (2.1%) in our sample of 100 participants. The incidence of psychiatric illness in the family is also low (1.1%).

In our survey, we found that one girl resorted to taking tranquillisers to help her sleep after every night shift. Table VII shows that 27% of the participants had problems at work - this is mainly related to interpersonal relations with colleagues and supervisors. Depression and/or neurosis occur in 10.1% of cases. The more severe forms of mental illness were not noted in our survey.

In an attempt to identify psychosomatic problems among the female factory workers, we looked at the relationship between problems at work and headache, depression and neurosis and asthma. This is shown in Table VIII. Table IX shows a relationship between depression and/or neurosis with period pains and generalised malaise. We also cross tabulated the symptom of headache with visual disturbance and epigastric pain. This is shown in Table X.

Table XI shows the percentages of the participants taking either patent western medicine or traditional herbs for various ailments. We found that there is no significant difference in those taking both types of medicine. This accounts for about one third of the total number of girls surveyed.

Physical Examination

A full physical examination was done on all the 100 girls, and the positive findings are shown in Table XII. The mean height of the girls was 155.33 cm (range 140-163 cm), and the mean weight was 48.17 kg (range 39-61 kg). We found that the majority of the girls were healthy; 2 girls (2%) had thyroid swelling which was clinically noted to be benign; 3.1% had breast lumps - they were

TABLE VI: FAMILY HISTORY OF DISEASE

Family history	Percentage
Hypertension	29.5
Allergies	12.1
Heart disease	11.6
Asthma	9.5
Diabetes	8.4
Tuberculosis	5.3
Cancer	2.1
Eczema	1.1
Psychiatric illness	1.1

TABLE VII: PSYCHIATRIC HISTORY

Psychiatric history	Percentage
Problems at work	27
Depression/Neurosis	10.1
Mental illness	0
Schizophrenia	0
History of attempted suicide	0

TABLE VIII: PROBLEMS AT WORK VERSUS HEADACHE, DEPRESSION AND/OR NEUROSIS AND ASTHMA: PERCENTAGES IN SAMPLE

		Problems at work		
		Yes	No	Total Cases
Headache	Yes	11.1 (11)	22.2 (22)	33
	No	16.2 (16)	50.5 (50)	66
Depression and/or Neurosis	Yes	5.0 (5)	5.0 (5)	10
	No	21.0 (21)	68.7 (68)	89
Asthma	Yes	6.3 (6)	3.2 (3)	9
	No	18.9 (18)	71.6 (68)	86

Note:

Statistics within brackets are frequencies.

TABLE IX: DEPRESSION AND/OR NEUROSIS VERSUS PERIOD PAINS AND GENERALISED MALAISE: PERCENTAGES IN SAMPLE

		Depression and/or Neurosis		
		Yes	No	Total Cases
Period pains	Yes	6.1 (6)	44.9 (44)	50
	No	4.1 (4)	44.9 (44)	48
Generalised malaise	Yes	2 (2)	1 (1)	3
	No	8.2 (8)	88.9 (87)	95

Note:

Statistics within brackets are frequencies.

TABLE X: HEADACHE VERSUS VISUAL DISTURBANCE & EPIGASTRIC PAIN: PERCENTAGES IN SAMPLE

		Headache		
		Yes	No	Total Cases
Visual Disturbance	Yes	18.2 (6)	33.3 (3)	9
	No	81.8 (27)	70.0 (63)	90
Epigastric pain	Yes	9.1 (3)	40.0 (12)	5
	No	90.9 (30)	68.1 (64)	94

Note:

Statistics within brackets are frequencies.

TABLE XI: PERCENTAGES OF GIRLS TAKING PATENT WESTERN MEDICINE VERSUS THOSE TAKING TRADITIONAL HERBAL MEDICINE

Symptoms	Percentages (Frequencies)	
	Taking patent western medicine	Taking traditional herbal medicine
Headache	11.5 (11)	11.3 (11)
Visual disturbance	4.2 (4)	4.1 (4)
Epigastric pain	1 (1)	3.1 (3)
Pruritus	3.1 (3)	0
Generalised malaise	1 (1)	1 (1)
Constipation	0	1 (1)
Vaginal discharge	13.7 (13)	16.7 (16)
Total percentage taking self medication	30.9	29.6

TABLE XII: PHYSICAL EXAMINATION: FINDINGS

Mean Height	=	155.33 cm (range 140-163 cm)
Mean Weight	=	48.17 kg (range 39-61 kg)
Thyroid swelling	=	2%
Breast lump	=	3.1%
Hypertension	=	2%

subsequently sent to various special clinics for further investigations. Two participants were noted to have high blood pressure. They were in the age group 31-40 years.

Investigations

Investigations showed that the mean hemoglobin concentration of the girls was 11.87 gm/100 ml (range 10 -15 gm%) which is within the normal range (Table XIII). It was also found that there was no relationship between the 3 girls with generalised malaise and anaemia - all of them had hemoglobin concentration of 12 gm% and above.

Out of the 63 girls who had chest x-rays done - only 1 case showed changes suggestive of pulmonary tuberculosis - she was further investigated. 64 blood serologies were done, out of which 2 showed positive results and both of them were treated.

Conclusion

In this preliminary report on the health survey of 100 female factory workers, who previously came from the rural areas and now live in the city, we found that a majority of them are healthy. However, studying the data obtained, a few questions come to our minds :

(i) What is the effect of urban migration with all its accompanying problems of overcrowding, lack of parental supervision, etc, on the work productivity of these girls?

(ii) Do the symptoms of headache, visual disturbance and problems at work, leave any effect on work productivity?

In this aspect, psychological, cultural and other social adjustments have to be looked into.

TABLE XIII: INVESTIGATIONS

Blood	
Mean hemoglobin	11.87 gm% (range 10-15 gm%)
Serology positive	3.1% (2 cases)
Urine	
Protein positive	6%
Sugar	4%
Casts	10%
Stools	
Ova	10.5% (2 cases)
Cysts	15.8% (3 cases)
Trichuris	21.1% (4 cases)
Abnormal Chest xray	1.6% (1 case)
ECG - normal	

With these questions in mind, an on-going indepth study in the effect of "social adjustments" of these factory workers and productivity have to be looked into.

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