

THE ROLE OF THE OCCUPATIONAL HEALTH NURSE

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SUMMARY

The paper highlights some of the findings from a study carried out by the author and co-workers in the County of Avon, England, in 1981. The objective was to develop a methodology for evaluating the occupational health nursing resources and activities within a defined geographical region, which could then be applied to other areas including Malaysia. Data was collected by means of a postal questionnaire. The response rate from the 108 nurses in the study population was 82.4 percent. The majority of full-time nursing units were employed in large organizations (with more than 1000 employees) while most of the part-time units were in smaller organizations. The main nursing activities appeared to be treatment, medical examinations and screening procedures. The implications arising from the findings are discussed in relation to the role of the occupational health nurse in Malaysian industry. There is a need to provide basic occupational health services to cover all industrial workers in Malaysia, particularly those in the smaller industries. In view of the great shortage of physician manpower, especially those qualified in occupational medicine, the fully-trained occupational health nurse appears to be the most appropriate paramedical personnel to provide primary health services in industry.

INTRODUCTION

In both developed and developing countries, the

quality of occupational health services provided by an industry for its workers appears to be related to the size of the industrial organization. Generally, it is the large national or multinational organization which provides the most elaborate and comprehensive occupational health services.¹ In contrast, the smaller industries, which very often contain the most hazardous occupations, are those that can least afford these much-needed health care services for their employees.² This situation also holds true in Malaysia, where there is a great need to provide basic occupational health services to cover all workers including those in the small industries.³

In the planning of basic occupational health services for industry, however, there has to be a realistic and rational manpower policy. Shortage of medical manpower, particularly those qualified and trained in occupational medicine, constitutes a real constraint in Malaysia as in most other developing countries. This shortage of qualified physicians appears unlikely to be resolved in the foreseeable future, especially in the face of competition for limited resources with other priority health programmes in the country, such as communicable disease control and family planning. The brunt of the basic health services in Malaysian industry will thus have to be borne by suitably trained paramedics, in this case the occupational health nurse, who appears to be the most appropriate person to provide basic medical and health care for industrial workers.² The potential contribution of the occupational health nurse in organizing and running local health services in industry is already recognized in other developing countries, as well as in industrialized nations like the United Kingdom.^{4,5}

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EVALUATION OF OCCUPATIONAL HEALTH NURSING SERVICES

The nursing resources and activities in Malaysian industry, however, needs to be evaluated as a prerequisite step to provide information for the planning and implementation of occupational health nursing services and training programmes for the country. Although there has been considerable literature debating the role and functions of the occupational health nurse, there has been very little research work done to evaluate the actual practice of occupational health nursing. The need to develop research methodology for the evaluation of occupational health services has also been stressed by the WHO Working Group on Evaluation of Occupational Health and Industrial Hygiene services in Stockholm.⁶ Consequently, a study was carried out by the author and other co-workers at the University of Bristol in 1980/81, with the basic aim of developing a methodology for the evaluation of occupational health nursing services in a geographically defined area (the County of Avon). This paper highlights some of the most salient findings arising from the study and discusses the implications for occupational health nursing in Malaysian industry.

OBJECTIVES

The specific objectives of the study were:-

- a) to assess the number of nurses employed in occupational health services in Avon, with reference to their qualifications and training backgrounds,
- b) to develop relevant criteria and indices of occupational health nursing services for subsequent comparative purposes,
- c) to describe the systems of organization and administration of occupational health nursing services in different industries within Avon,
- d) to describe and analyse the patterns of nursing activities in different industries within Avon in terms of job descriptions,
- e) to identify, from the point of view of the practising occupational health nurse, the needs for training or continuing education, and the type of training or educational courses required.

Subsequently, it was hoped that the methodology developed for this pilot study could be adapted for extension into other geographical areas, including Malaysia.

MATERIALS AND METHOD

The study population consisted of all nurses (registered or enrolled) employed full-time or part-time in occupational health services in the County of Avon. These nurses were identified with the help of the Employment Medical Advisory Service (EMAS) for the South-west Region. The classification of industrial groups to which these nurses belonged was adapted from that used by the EMAS survey⁴ and was originally based on the Standard Industrial Classification of the Central Statistical office in London. The data was collected by means of a self-administered questionnaire sent by postal delivery to each of the nurses in the study population. There were a number of nurses who worked part-time for more than one organization. Each of these organizations was considered as a separate nursing unit, and these nurses were asked to complete one questionnaire separately for each nursing unit. A follow-up letter was sent out three weeks later to improve the response rate.

RESULTS

A total of 108 nurses were identified in the study population, out of which 89 responded, yielding a response rate of 82.4 percent. Some of the 89 nurses worked for more than one organization, with a total of 99 nursing units. It should be noted that some of the tables presented here are based on the analysis of results pertaining to the 89 nurses while some are based on the 99 nursing units.

Table I shows the distribution of nurses by sex, qualification and employment status. There were 72 full-time nurses (83.7 percent), and 14 part-time nurses (16.3 percent). Only nine nurses were male (10.5 percent), all of whom were in full-time employment. Most of the nurses were State Registered Nurses (SRN); only 12 were State Enrolled Nurses (SEN) and one was a Registered Mental Nurses (RMN). Out of the 86 nurses, only 20 (or 23.3 percent) were considered to be fully trained in occupational health, i.e. possessing the Part II Occupational Health Nursing Certificate (OHNC).

Table II shows the distribution of nursing units by employment status, size of the industrial organization and physician services. The majority of full-time nursing units were employed in large organizations with 1000 or more employees (51 out of 79, or 64.6 percent) while most of the part-time nursing units in contrast were employed in smaller organizations with less than 1000 employees (12 out

TABLE I
DISTRIBUTION OF NURSES BY SEX, QUALIFICATION AND EMPLOYMENT STATUS

		SRN			SEN		OTHERS		Total
		With Pt. II, OHNC	With Pt. I, OHNC	Without Pt. I or II, OHNC	With Pt. I, OHNC	Without Pt. I, OHNC	With Pt. I, OHNC	Without Pt. I, OHNC	
Full-time	Male	3	2	3	0	0	1	0	9
	Female	16	16	21	2	8	0	0	63
Part-time	Male	0	0	0	0	0	0	0	0
	Female	1	3	8	0	2	0	0	14
Total		20	21	32	2	10	1	0	86

(Number of unknowns = 3)

Note:

SRN : State Registered Nurse SEN : State Enrolled Nurse OHNC : Occupational Health Nursing Certificate

of 17, or 70.6 percent). Most of the full-time nursing units had back-up physician services (71 out of 79, or 89.9 percent) while all the part-time nursing units had back-up physician services. These physician services were either full-time, part-time or on-call arrangements.

Table III shows the distribution of nursing units

by industrial group. The industrial groups which employed the most number of nursing units were aeronautical engineering (24 out of 99, or 24.2 percent), food, drink and tobacco (21 out of 99, or 21.2 percent) and the National Health Service (8 out of 99, or 8.1 percent). A point to bear in mind is that the large numbers of nursing units in these

TABLE II
DISTRIBUTION OF NURSING UNITS BY EMPLOYMENT STATUS, SIZE OF INDUSTRIAL ORGANIZATION AND PHYSICIAN SERVICES

Size of organization (Numbers of employees)	Full-time nursing unit		Part-time nursing unit		Total
	Without physician services	With physician services	Without physician services	With physician services	
Less than 250	3	1	0	5	9
250-499	2	7	0	2	11
500-999	2	13	0	5	20
1000-1499	1	11	0	2	14
1500-1999	0	3	0	0	3
2000-2499	0	3	0	1	4
2500-5000	0	7	0	2	9
More than 5000	0	26	0	0	26
Total	8	71	0	17	96

(Number of unknowns = 3)

TABLE III
DISTRIBUTION OF NURSING UNITS BY
INDUSTRIAL GROUP

Industrial Group	Number of nursing units
i) Aeronautical engineering	24
ii) Food, drink and tobacco	21
iii) National Health service	8
iv) Chemicals and allied industries	7
v) Paper, printing and publishing	6
vi) Agricultural, horticultural and farming	4
vii) Mechanical engineering	4
viii) Clothing and footwear	4
ix) Gas, electricity and water	4
x) Metal manufacture	3
xi) Electrical engineering	2
xii) Sea transport	2
xiii) Petroleum and natural gas extraction	1
xiv) Manufacture of coal and petroleum products	1
xv) Timber, pulp, furniture	1
xvi) Distributive and retail trades	1
xvii) Insurance, banking and finance services	1
xviii) Postal and Telecommunications	1
xix) Other national government services	1
xx) Local authority services	1
xxi) Broadcasting	1
xxii) Friction manufacture	1
Total	99

three industrial groups could bias the subsequent analysis of nursing activities.

Table IV shows the distribution of nurses by qualification and felt need for additional training. The majority of nurses, both SRN's and SEN's, felt that they needed additional training to carry out their present work more effectively (62 out of 87, or 71.3 percent).

Table V presents the activities carried out by the nursing units in the course of their routine practice. The activities done regularly by the majority of nursing units include treatment, medical examinations and screening procedures, individual counselling, safety inspections, and administration. The activity which took up the most time in a typical working week was treatment, according to 54 out of 95 nursing units (56.8 percent, Table VI).

Table VII compares the activities carried out by nursing units in three different industrial groups. The main activities done regularly in all three groups were treatment, medical examinations and screening procedures, individual counselling, and administration. Immunizations and health education were also regular activities in the National Health Service nursing units, but not in the other groups.

DISCUSSION

In defining the role of the occupational health nurse in industry, it is important from the outset to spell out clearly to management, union and the occupational physician, what should be her main nursing functions and activities. The study showed that, among the various activities listed in Table V, the major ones were treatment, medical examinations and screening procedures. It is envisaged that these would also constitute the major activities of the occupational health nurse in Malaysian industry. A great proportion of nursing time would thus be employed in providing on-site curative care for the worker. This has tremendous implication for the design of training courses for the occupational health nurse which should thus incorporate training in the basic principles and techniques of medical diagnosis and therapy. However, the trained nurse should also be able to recognize the limitations of her skills and knowledge, and the need for referral to physicians when the situation warrants it.

On the other hand, the preventive aspects of occupational health nursing should be regarded as equally, or even more, important than the curative functions. In fact, some quarters such as the Royal College of Nursing (United Kingdom) are of the opinion that the predominant role of the occupational health nurse should be in an advisory and preventive, rather than curative capacity. It is doubtful, however, whether treatment and other curative care activities can be significantly divorced from the routine functions of the occupational health nurse. It should be stressed here that preventive functions such as health education, counselling and safety inspections, should be part and parcel of occupational health nursing practice although it has been noted that these are at present not commonly carried out in Malaysian industry.⁷

The planning of occupational health nursing manpower requirements also needs to be considered. It is estimated that there are about

TABLE IV
DISTRIBUTION OF NURSES BY QUALIFICATION
AND FELT NEED FOR ADDITIONAL TRAINING

Felt need for additional training	SRN			SEN		OTHERS		Total
	With Pt. II, OHNC	With Pt. I OHNC	Without Pt. I or II, OHNC	With Pt. I, OHNC	Without Pt. I OHNC	With Pt. I, OHNC	Without Pt. I, OHNC	
Need additional training	14	15	23	2	7	1	0	62
Do not need additional training	6	5	10	0	3	0	0	24
Don't know	0	1	0	0	0	0	0	1
Total	20	21	33	2	10	1	0	87

(Number of unknowns = 2)

SRN : State Registered Nurse SEN : State Enrolled Nurse OHNC : Occupational Health Nursing Certificate

TABLE V
ACTIVITIES CARRIED OUT BY NURSING UNITS

Activities	Number of nursing units			Total
	Activity done regularly	Activity done occasionally	Activity never done	
i) Treatment	86	9	0	95
ii) Medical examinations and screening procedures	79	9	5	93
iii) Immunization procedures	31	28	30	89
iv) General health education of groups of employees	30	27	35	92
v) Counselling of individual employees	60	31	4	95
vi) Training of workers in first aid, rescue, etc	12	32	50	94
vii) Environmental surveillance, safety and occupational hygiene	57	23	14	94
viii) Epidemiology or research	13	27	47	87
ix) External relations	39	33	22	94
x) Administration	91	3	1	95

7830 qualified nurses in the country, of which 4054 are in private employment. ⁸ There is thus a large pool from which occupational health nurses can be selected for training. Some consideration should be given to the idea of developing local training courses for occupational health nurses, although such courses are available in the United States, Britain and Singapore. In Avon, only 23.3 percent of the nurses were fully trained, i.e. possessing the Occupational Health Nursing Certificate. It is very likely that the corresponding ratio will be very much lower in the Malaysian situation.

Recommendations for nursing manpower ratios vary. The Royal College of Nursing (UK) recommends one occupational health nurse for every 1000 employees although the findings of the present study revealed encouraging trends : 41.7 percent of the nursing units were employed by organizations with less than 1000 employees. The American Medical Association Council on Occupational Health and the National Institute of Occupational Safety and Hygiene (NIOSH) recommend one full-time and one part-time nurse to provide at least 60 hours of nursing coverage per week for every 1000 workers. The recommendations for Malaysia are two to six nurses (and one doctor) for every 4000 workers, depending on a number of factors such as the number of work shifts, the

TABLE VI
ACTIVITIES WHICH TOOK UP THE MOST TIME
IN A TYPICAL WORKING WEEK

Activity which took up the most time	Number of nursing units
Treatment	54
Medical examinations and screening procedures	21
Administration	11
Individual counselling	6
Other, unspecified activities	3
Total	95

(Number of unknowns = 4)

TABLE VII
ACTIVITIES CARRIED OUT BY NURSING UNITS IN THREE DIFFERENT INDUSTRIAL GROUPS

Activities	Aeronautical Engineering			Food, drink and tobacco			National Health Service		
	Done regu- larly	Done occa- sionally	Never done	Done regu- larly	Done occa- sionally	Never done	Done regu- larly	Done occa- sionally	Never done
i) Treatment	22	2	0	18	3	0	7	1	0
ii) Medical examinations and screening procedures	24	0	0	18	2	0	8	0	0
iii) Immunization procedures	9	7	6	4	8	7	7	1	0
iv) General health education of groups	9	3	12	8	11	2	6	2	0
v) Individual counselling	15	9	0	14	7	0	7	1	0
vi) Training of workers in first aid, rescue, etc.	2	8	13	3	9	9	0	1	7
vii) Environmental surveillance, safety and occupational hygiene	15	7	2	15	5	0	5	2	1
viii) Epidemiology or research	4	6	11	3	9	7	2	3	3
ix) External relations	10	6	8	7	13	0	4	4	0
x) Administration	23	1	0	21	0	0	8	0	0

nature of the industry and hazards, and the availability of other public and private medical services.⁷

In conclusion, it is important to note that only 4 percent of the industries and 24 percent of the workers under the SOCSO scheme in Peninsular Malaysia are covered by private medical practitioner services.⁸ There can be no doubt then that the occupational health nurse will have an essential role to play in providing basic front-line health services for workers in Malaysian industry.

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