A SURVEY OF OPINIONS AND ATTITUDES ON CANCER AMONG SOME SECONDARY SCHOOL CHILDREN IN SINGAPORE

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SYNOPSIS

3125 Secondary Four students from 10 schools in Singapore were asked to complete anonymously a set of questions to determine the level of general knowledge, opinions and attitudes about 5 common diseases, with cancer as one of them. The state of knowledge and opinions about causes of death and effects of diseases (including warning signs of cancer) are not encouraging.

75% of the students considered cancer as "most fearful" and "incurable". Previous exposure to health talks show some positive effects, although rather marginally. Previous experience of cured sufferers of specific diseases helped to provide encouraging opinions and attitudes about the disease concerned. The implications of the findings for future planning of the schools' cancer education programme are discussed.

INTRODUCTION

When the Singapore Cancer Society was inaugurated in late 1964, public education on cancer was and still remains a top-priority endeavour. The very word "cancer" continues to generate fear and anxiety, not only among the sufferers, but also in the public at large. And this state will probably persist until the mysteries of cancer are unravelled and its cure made readily available.

It is well recognised now, at this stage of medical knowledge and expertise, that some crucial components of cancer-control activities include:

(a) the dissemination of reliable information about cancer.
(b) the elimination of irrational fears concerning the disease, and
(c) the promotion of diagnosis at the earliest possible stage.

The imparting of knowledge in a clear and effective manner can go a long way towards removing misconceptions and promoting rational behaviour.

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With this assumption, the Education Committee has over the years embarked on active programmes reaching out to school-leavers, professional and occupational groups as well as the general public. The schools' programme consists of visits to about 10-30 secondary schools a year, during which volunteer speakers talk on basic aspects of cancer, with audio-visual aids.

The recipients of this particular educational programme are usually from Secondary Four or Pre-University classes. In 1976, 10 English medium schools were visited during the period June to August. Although they were all self-selected by their request for speakers, the schools represent a fair sample of the ordinary working-class schools in both the city and suburbs. There is no reason to suspect that they are biassed in any demographic or social characteristics.

The Secondary Four students from all the 10 schools formed the study-population for a pre-test survey of the opinions and attitudes on cancer among these school children. The objectives of the survey were as follows:

(1) To determine the state of general knowledge and opinions about cancer among the students;
(2) To identify any differences in knowledge and opinions among the students with regard to previous experience of cancer-sufferers and previous exposure to health education;
(3) To define particular needs for the attention of the Education Committee in planning the schools' programme;
(4) To provide the baseline information for evaluation purposes at some later date.

MATERIALS AND METHODS

Only Secondary Four students were asked to cooperate with this survey. Response was very good and all the students present returned the forms, although some questions were left unanswered.

The survey was conducted as a surprise before the talk commenced. There was no publicity beforehand and the questionnaire was administered as a general health inquiry, without undue emphasis on any particular disease. The students were instructed to answer the questions as truthfully as possible, and remain anonymous. They were told not to discuss the questions with their friends.

Knowledge and opinions were sought on five common disease groups, namely heart disease, tuberculosis, kidney disease, cancer and typhoid. Some of the questions were adapted from similar surveys conducted in U.K. (Briggs and Wakefield, 1967; Williams et al, 1972). Many of them were open-ended, without any specific answers being offered as alternatives. Thus, the replies depended a great deal on the student's personal experience and knowledge.

Much of the results will be presented in relation to the characteristic of 'previous exposure to health talks'. While the times and venues are not known, the students were able to state the subject-matter. This may provide a crude evaluation of all previous health education programmes taken as a whole.

Previous experience of sufferers of specific diseases will be considered in relation to opinions about curability. An analysis from this angle may provide clues to new strategies in cancer education.

RESULTS

(i) Response

Although questions were left unanswered in various combinations, the rate of non-response was generally very low, ranging from 1% to 8% with the mode at about 4%.

Some relevant social characteristics of the 3125 students are given in Table 1. There were roughly equal numbers of males and females, with their mean age at 16.6 years (all being from Secondary Four classes). The distributions by the occupational status of fathers were very similar between the sexes in every school.

TABLE 1: Some Relevant Social Characteristics of the Students

Father's occupation	Male		Female	
	No.	%	No.	%
1. Prof. and Admin.	169	11.0	141	8.9
2. Clerical/Sales/Service	492	31.9	507	32.0
3. Agri./Prod"/Transp.	481	31.2	572	36.1
4. Unemployed	200	13.0	182	11.5
5. Deceased/Retired	200	13.0	181	11.4
TOTAL	1542	100.1	1583	99.9
Range of ages:	15-18 years			
Mean age :	16.6 years			

About 35% of the students claimed previous exposure to talks on various health topics, and almost half of this group included "cancer" as one of the subjects covered (Table 2).

(ii) State of General Knowledge

Questions were asked on the total number of deaths in Singapore and the most important cause of death. On the whole only 5% got both questions correct and

TABLE 2: Students Previously Exposed to Health Education Talks

Subject of talks	No.	%
Nil	1882	60.2
Cancer and other subjects	516	16.5
Other subjects only	599	19.2
Unknown	128	4.1
TOTAL	3125	100.0

another 57% one correct (Table 3). Correct answers to both questions in the 10 schools ranged from 3% to 8%.

Distribution of correct answers did not vary with sex, father's occupation, and previous exposure to health talks.

(III) Opinions on some diseases

(a) *Curability*

More than three-quarters of the students thought that two common infectious diseases, tuberculosis and typhoid, were curable (Table 4). The previously exposed group had higher rates, both being statistically significant (p at least < 0.05).

Slightly less students were hopeful that kidney diseases could be cured. Only about a third thought that heart diseases and cancer were curable, least of all being the latter. The previously exposed group had a significantly higher rate of positive opinion on cancer curability.

When the results are presented according to personal experience of sufferers of 3 specific diseases (Table 5), positive opinion of curability of a disease improved tremendously with experience of example of cure ($p < 0.01$). It is to be noted that experience of cases not cured tended to bring down the rate of positive opinion.

TABLE 4: Positive opinions on curability of 5 diseases, by previous exposure to health talks

Disease	No previous exposure (Total 1882)		Previous exposure (Total 1115)	
	No.	%	No.	%
1. Heart Disease	666	35.4	379$^{N.S.}$	34.0
2. Tuberculosis	1582	84.1	968*	86.8
3. Kidney Disease	1308	69.5	804$^{N.S.}$	72.1
4. Cancer	392	20.8	341**	30.6
5. Typhoid	1513	80.4	949**	85.1

Asterisks within table refer to significance tests between 'previous exposure' and 'no previous exposure' for each disease:
N.S. = Not significant
* = $p < 0.05$
** = $p < 0.01$

(b) *Warning signs*

Three common manifestations in adults were presented and opinions sought on their possible causes, as open-ended questions. From Table 6, it can be seen that less than 20% of the students mentioned "cancer" as a possible cause for the two warning signs of 'bleeding from the nose' and 'persistent coughing and spitting out blood'. The previously exposed group showed higher rates, although it was significant only for the first one concerning nose-bleeding.

The question on 'lump in the breast' was directed at female students only, and more than

TABLE 3: Students with correct answers, by previous exposure to health talks

Number of Correct Answers	No previous exposure		Previous exposure		Unknown		Total	
	No.	%	No.	%	No.	%	No.	%
Nil	681	36.2	429	38.5	64	50.0	1174	37.6
One	1096	58.2	625	56.1	61	47.7	1782	57.0
Both	105	5.6	61	5.4	3	2.3	169	5.4
TOTAL	1882	100.0	1115	100.0	128	100.0	3125	100.0
	$X^2 = 1.59$, 2 D.F., N.S.*							

*N.S. = Not significant.

TABLE 5: Students with positive opinion of curability, by personal experience of sufferers of 3 specific diseases

Disease	No previous experience		Experience with sufferer not cured		Experience with sufferer cured	
	No.	%	No.	%	No.	%
Tuberculosis	2144	84.8	142	75.9	342**	96.3
Heart Disease	884	34.7	120	32.2	74**	60.2
Cancer	592	24.3	97	19.2	58**	59.8

Asterisks within table refer to significance tests between 'experience with sufferer cured' and 'no previous experience' for each disease:
** = $p < 0.01$

TABLE 6: Students mentioning cancer as a possible cause of three symptoms in adults, by previous exposure to health talks

Symptoms in adults (Warning sign)		No previous exposure (Total 1882)		Previous exposure (Total 1115)	
		No.	%	No.	%
1.	Bleeding from nose	249	13.2	216**	19.4
2.	Persistent coughing and spitting out blood	162	8.6	120N.S.	10.8
3.	Lump in breast‡	723	77.6	462N.S.	80.5

‡ Question directed at female students only.

Asterisks within table refer to significance tests between 'previous exposure' and 'no previous exposure' for each symptom:
N.S. = Not significant
** = $p < 0.01$

TABLE 7: Students claiming awareness of four medical procedures, by previous exposure to health talks

Medical Procedure		No previous exposure (Total 1882)		Previous exposure (Total 1115)	
		No.	%	No.	%
1.	Breast self-examination‡	353	38.8	278**	48.6
2.	Pap smear test‡	63	7.0	60*	10.8
3.	BCG immunization	1854	98.5	1105N.S.	99.1
4.	TAB immunization	634	33.2	415*	37.2

‡ Questions directed at female students only.
Asterisks within table refer to significance tests between 'previous exposure' and 'no previous exposure' for each procedure:
N.S. = Not significant
* = $p < 0.05$
** = $p < 0.01$

TABLE 8: Proportions of students expressing greatest and least fear against 5 diseases, by previous exposure to health talks

	Greatest Fear		Least Fear	
	Not Previously Exposed	Previously Exposed	Not Previously Exposed	Previously Exposed
	%	%	%	%
1. Heart Disease	14.3	16.1	4.8	3.9
2. Tuberculosis	3.6	3.5	14.1	15.2
3. Kidney Disease	1.2	0.8	23.1	22.2
4. Cancer	73.8	71.9	0.9	0.6
5. Typhoid	2.7	3.3	51.7	53.3
Unknown	4.4	4.4	5.4	4.8
TOTAL	100.0	100.0	100.0	100.0

three-quarters of them recognised it as a possible sign of cancer.

(IV) Awareness of some medical procedures

BCG immunization commanded a very high rate of awareness, being a common procedure experienced by the students themselves. Only a third were aware of TAB immunization (Table 7).

Among the girls, just over a third were aware of Breast Self-Examination and only about 10% knew of the Papanicolau (Pap) Smear Test.

In all the four questions, the previously exposed group had better results, with significance for all except the one pertaining to BCG.

(V) Attitudes towards some diseases:

The students were required to rank 5 diseases in order of their personal fear against them. As expected, almost three-quarters of them ranked cancer as the one that causes greatest fear, followed far behind by heart disease (Table 8). The readily treatable and controllable diseases like tuberculosis, typhoid and kidney disease caused much less apprehension. Previous exposure to health talks did not have any influence on these attitudes.

DISCUSSION

That cancer is a mysterious but sure killer is still very much the common idea. Cancer was considered "most fearful" and "incurable" by about 75% of the students. It is to be admitted that there is yet much to be discovered concerning the causes and nature of various cancers. Treatment is on the whole satisfactory only when instituted at an early stage, while prevention is rather vague except for cigarette smoking and certain known chemical carcinogens. Is it any wonder then that the public (students included) should still consider cancer deadly?

Indications are that previous exposure to health talks, especially on cancer, have helped to promote correct opinions and attitudes towards the disease. The effects, however, are not at all phenomenal, thus stressing the slow process of education. Perhaps, the effectiveness of many of the health education programmes would need to be improved.

One positive finding of significance relates to the influence of the students' personal experience of sufferers of the disease, especially when cured. Knowledge and attitudes were encouraging in such a group. Can this be an important clue to a more effective teaching programme? Patients who have been cured of cancer can help generate encouragement and hope among the ignorant and unmotivated. An infusion of a certain amount of case-history experience into the educational programme may succeed where impersonal statistics merely cause disinterested confusion.

It would seem that the average student in Secondary Four knows little beyond his or her personal experience at home or in the classroom. The state of general knowledge and opinions about the warning signs are not encouraging. Awareness of medical procedures, again is best only in the case of BCG — commonly experienced among the students themselves. Any ad-hoc health education programme therefore, such as cancer education, which is not part of the curriculum must not

be too presumptous. Nothing can be assumed, and basic knowledge should be put across clearly, simply and effectively.

CONCLUSIONS

The implications of the survey findings for the schools' cancer education programme can be summarized thus:

(a) There should be no assumptions of basic knowledge, and care should be taken to present the facts in a simple and clear manner, with the aid of audio-visual equipment. Technical terms should be restricted to a minimum.

(b) Patients of cancer who have been cured may be effectively used in helping to provide motivation and hope besides imparting the message that early treatment can lead to cure.

(c) The eight warning signs need to be properly explained, and the theme of "early diagnosis to save lives" must be stressed.

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REFERENCES

1. Briggs, J.E. and Wakefield, J.: Public Opinion on Cancer: A Survey of knowledge and attitudes among women in Lancaster, 1966. Christie Hospital and Holt Radium Institute, Manchester, 1967.
2. Williams E.M., Cruickshank, A., and Walker, W.M.: Public Opinion on Cancer: A Survey of knowledge and attitudes in South-east Wales. Tenovus Cancer Information Centre, Cardiff, 1972.