HEALTH PROMOTION - A FURTHER FIELD TO CONQUER

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ABSTRACT

We examine some of the interpretations of health promotion. A brief review of the effectiveness of some health promotion programmes in the community and at the worksite in the United States is also presented in view of the similarity of its disease pattern with Singapore. We recommend the following strategies for the practice of health promotion in Singapore: formulation of clearly defined goals; intersectoral collaboration and community participation. Tanahill's model based on the overlapping spheres of health education, disease prevention and health protection is useful in identifying key groups and their roles in health promotion. Green's PROCEED - PRECEDE planning framework which identifies the various behavioural and environmental factors affecting health can help in deriving a highly focused subset of factors as targets for intervention. Research in health promotion should focus on compliance studies on healthy lifestyle regimens, and qualitative and quantitative evaluative studies on process and outcomes of different interventions.

Keywords: *Health promotion, Review*

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INTRODUCTION

In recent years, health promotion has emerged as a new field of interest, not only among health professionals but also in industry and among politicians. This is partly in response to escalating health costs associated with high technology and hospital based systems in the treatment and rehabilitation of chronic diseases. It is also partly due to the growing realisation that many of the risk factors in chronic diseases are preventable and a rational approach to current health problems requires a preventive rather than a curative approach.

A review of literature indicates marked variations in the interpretation of the term "health promotion", and a lack of agreement in the areas of responsibility, technology, and process.

The purpose of this article is to examine some of the interpretations of health promotion and review the effectiveness of some health promotion programmes. We follow up with a discussion on the implications of this review for future research and practice of health promotion programmes in Singapore.

Changing Concepts of Health Promotion

Health promotion is not a new discipline. It is a fundamental concept at the very basis of public health action. Winslow in 1920 referred to "promoting health" as organised community effort for the education of the individual in personal health and the development of the social machinery to assure everyone a standard of living adequate for the maintenance or improvement of health[1]. After World War II however, the social machinery for health tended to lean towards curative care. In 1958 Leavell and Clark[2] defined health promotion as those procedures that are not directed at any particular disease or disorder but serve to further general health and well- being. It was clearly delineated from specific protection that was defined as measures designed to intercept causes of diseases before they involve man. The authors suggested that health promotion activities could be identified through a study of the interrelations of host, agent, and environment, (the traditional epidemiological model) that might influence disease occurrence. Health education was stressed as the vital component in these activities[2].

In 1977, Lauzon[3] proposed a health promotion model, that was modified from the epidemiological model, to reduce or eliminate health risk factors in the population. He classified health promotion activities into three categories: host-oriented activities through education, behaviour modification, screening and counselling; agent-oriented activities through marketing, regulatory and legislative controls; and environment-oriented activities through physical, sociocultural, economic and media influences. Lauzon's approach is specific in outlining the health promotion activities but it is basically a disease-oriented approach.

In 1979, the World Health Organisation(WHO) launched the Global Strategy for Health For All by the Year 2000, which calls for a reorientation of health policy and health services and for new priorities in the distribution of health resources[4]. A key element in these efforts is that they are aimed at he promotion of positive health. As can be seen, an emerging focus of interest has been in approaches and activities to maintain and enhance health rather than to prevent disease.

Definition of Health

It has been difficult to agree on a useful definition of health. The WHO definition of health as a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity[5] has been widely criticised on the grounds that it describes an ideal state that is rarely attained in the real world. It is also not a useful operational definition.

Stokes et al[6] proposed a definition that is measurable to a certain extent. He defined health as a state characterised by anatomic integrity, ability to perform personally valued family, work and community roles; ability to deal with physical, biologic and social stress; a feeling of well-being, and freedom from the risk of disease and untimely death.

Recently Bonham et al[7] has developed more specific measurements on health. He defined health in terms of three di-

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mensions: years to life (life expectancy), health to years(disability-free days) and life to years(wellness).

Other definitions of health relate primarily to the individual's ability to achieve his potential and to respond positively to the challenges of the environment. Health is , therefore seen as a resource for everyday life, not the object of living[6].

Health Promotion Defined

It is evident that the notion of health is now moving towards an ecological understanding of the interaction between individuals and their social and physical environment.

Based on the concept of health as the extent to which an individual is able to realize aspirations and cope with the environment, WHO has defined health promotion as the process of enabling people to increase control over the determinants of health and thereby improve their health[8]. They identified some issues as important in the development of health promotion policies and programmes. These include retuming to people the responsibility of their own health; encouraging health to occur by enhancing environmental quality; directing action on the determinants of health involving the whole population; and adopting a multidisciplinary approach. Thus health promotion represents a mediating strategy between people and their environments, combining personal choice with social responsibility for health[9].

As can be seen, WHO takes a broad view of health promotion where health promotion is viewed as a continuum ranging from the treatment of disease, to the prevention of disease including protection against specific risks, to the promotion of optimal health. There are others who take an even broader interpretation of health promotion as to include all activities which seek to improve health[10]. The problems with broad definitions are that they may appear vague and hence not useful for formulating practical health promotion programmes.

Current definitions of health promotion are perceived by some as being too conceptual. A layman's definition of health promotion as "adding years to life and life to years" was thus proposed to explain the purpose of health promotion to non-professional audience[11].

Some Misconceptions of Health Promotion

Lack of agreement and differing interpretations on what constitutes health promotion have also resulted in misconceptions.

There is a growing tendency to take health promotion to mean health education through the mass media[12]. This confusion has been aggravated by moves of numerous individual health education officers and units towards changing their professional label to health promotion, generally without any clearly stated redefinition of role[13].

Health promotion has also been associated with social marketing of health and lifestyle behaviour modification[14]. Social marketing refers to the application of advertising and marketing principles in developing programmes to change people's behaviour. This has been widely criticised on the grounds that it is unethical to market or sell health as opposed to enhancing or nurturing health.

Social marketing has also been criticised for promoting single solutions to complex problems and ignoring the socio-economic environment as a major determinant of health. It is increasingly being recognised that the environment apart from "influencing disease occurrence may also influence the choice of health behaviour. Thus health promotion activities should include those directed at the environment.

Working Models For Health Promotion

Tannahill's model [12,13] proposed a health promotion model that may be used as an aid in developing comprehensive health promotion programmes in key settings and amongst key groups. It can also be used as a framework for action on a particular aspect of behaviour (such as smoking) or a disease(for example coronary heart disease).

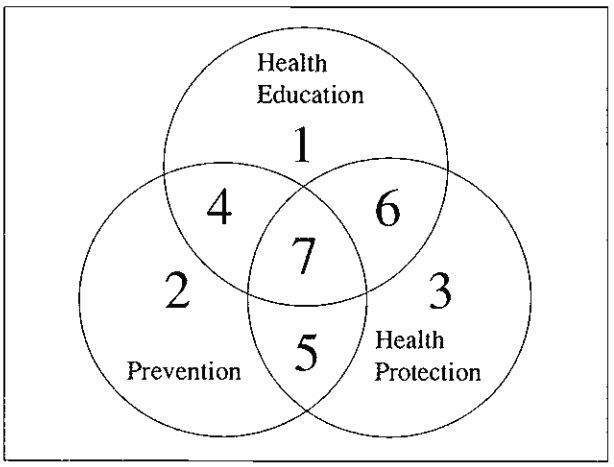
He defined health promotion as efforts to enhance positive health and prevent ill-health, through the overlapping spheres of health education, prevention and health protection. His health promotion model (Fig 1) is considered to consist of 7 domains:

1. Educational activity aimed at enhancing well-being (for example the promotion of productive use of leisure time on positive health).
2. Preventive procedures such as screening and immunisation.
3. Decision by government or other influential bodies (such as industrial or commercial) which will positively promote health (for instance the commitment of public funds to the provision of leisure facilities for positive health reasons).
4. Education for the public or professionals with a preventive focus.
5. Decisions by significant bodies which encourage preventive measures (for instance the passage of seatbelt legislation).
6. Health protective health education with a positive orientation (for example pressing for funds for leisure facilities).
7. Health protective health education with a preventive slant(for example lobbying for seatbelt legislation).

Precede-Proceed framework

Green[15] identified predisposing, enabling and reinforcing factors in influencing health seeking behaviour. Predisposing factors are characteristics of an individual that drives or motivates him to change his health-related behaviour. Included are knowledge, attitudes, beliefs and values. Enabling factors are characteristics of the environment or skills that allow motivation to be realised. These include personal skills, time, money, and community resources. Reinforcing factors are factors following adoption of behaviour change, that provide the continuing reward, incentive or punishment for behaviour and contribute to its persistence or extinction.

Fig 1 - A Working Model of Health Promotion



Source: Tannahill, 1985[12]

He proposed the use of PRECEDE-PROCEED framework for planning health promotion programmes. The PRECEDE framework which stands for predisposing, reinforcing and enabling causes in educational/environmental diagnosis and evaluation, identifies the multiple factors affecting health status and helps the planner arrive at a highly focused subset of those factors as targets for intervention. The PROCEED framework, which stands for policy, regulatory and organizational constructs in educational and environmental development, provides additional steps for developing policy and initiating the implementation and evaluating process.

The PRECEDE-PROCEED planning framework consists of 8 phases:-

1. Phase1 identifies general problems of concern to the target population that might lead to a lower quality of life.
2. Phase 2 identifies the specific health problems that may contribute to the social problems identified in phase 1.
3. Phase 3 identifies the specific health related behaviour and environmental factors that appear to be linked to the priority health problems.
4. Phase 4 sorts and categorises the predisposing, enabling and reinforcing factors in influencing behaviour. It also helps the planner to prioritize the factors for intervention, based on their relative importance and resources available to influence them.
5. Phase 5 assesses organizational and administrative capabilities and resources for developing and implementing a programme.
6. Phase 6 is concerned with implementation of the programme.
7. Phase 7 evaluates the process and
8. Phase 8 evaluates the impact of the intervention programme.Green's model emphasizes on the factors and processes of change related to lifestyle, apart from those changes directed primarily at health services and the physical environment.

HEALTH PROMOTION IN THE UNITED STATES

A review of health promotion programmes in the United States may be relevant, as the disease pattern in Singapore is similar to the USA and also because most of the literature on health promotion programmes originate from there.

The Motivation Behind The Movement

As a preamble into the different health promotion programmes currently available, it is useful to consider the factors contributing to the surge of American interest in this field[16].

The first reason would be financial in nature. The American health system passes the burden of cost onto the consumer, which in this case would be the employer, since most American companies offer medical benefits as a matter of right to their employees. With the rapidly rising costs of health care, this health policy has now become a serious financial consideration for American corporations. The American industry's response to this was to adopt a "cost containment" policy, arguing that if companies could reduce their medical insurance and disability claims by keeping employees healthy, then they would be able to lower health costs and potentially reduce their operating costs.

The second reason behind the health promotion movement in the USA lies in the basic assumption that individual behaviour or life-style is central to the development of chronic diseases. This assumption has its origin in research like the 1964 US Surgeon-General's Report on Smoking, which implicated cigarette smoking with the development of lung cancer, and the Framingham Heart Study which linked cholesterol, smoking and hypertension to the risk of heart disease, and research which showed that certain behaviours and habits could prolong life.

The third reason would be the "cultural wellness" phenomenon that has swept through the US. For the last two decades, interest in exercise, fitness, and "wellness" has been booming, and this has happened without any breakthroughs in medical research and with limited scientific justifications. While the individual's motivation for exercise may not therefore always have to do with health, it does reflect a clear change in American culture.

Evolution of Health Promotion Programmes in the States

In the early years, health promotion in the West played great emphasis on lifestyle modification, and had targetted individuals to forego their risk-taking, self-destructive habits for disease prevention such as smoking cessation, reducing misuse of alcohol and drugs, improved nutrition, exercise, fitness and stress control. Thus health promotion programmes have targetted individuals through a range of educational and behavioural approaches to forego their risk-taking self-destructive habits[17].

Soon it was realized however, that individuals require a mutually supportive environment to change their behaviour. The 1980's health promotion programmes were not only concerned with enabling the development of life-skills but was also concerned with environmental intervention through a broad range of political, legislative, fiscal and administrative means[18]. With this new perspective, health promotion programmes were planned with a more integrated and intersectoral approach with other non-health domains. Profiles of some health promotion programmes are described to indicate the breadth of activities that can be provided.

Health Promotion in the Workplace

Since the 1970's , worksite health promotion has become an active part of corporate health care policies[19]. Several companies for example, Johnson and Johnson, IBM, Campbell Soup Company, Blue Cross, have advocated such programmes. The rationale for the workplace as an advantageous site include : economic and other incentives for employees to invest in employee health promotion; the opportunity to mobilize peer pressure to help employees make desirable changes in health habits, the large amount of time spent there by the majority of the population.

According to the Corporate Wellness Programmes 1987 Biennial Survey conducted by the Health Research Institute, over 63% of the respondents in their survey offered health promotion programmes in one form or another[20]. The most frequently offered programmes were weight reduction (88.7%) and smoking cessation (86.5%), followed closely by health education (83.2%), substance abuse (79.7%), and fitness and stress reduction programmes (78.6%). Health risk assessments, medical consumer education, fitness facilities, and other programmes were also offered, albeit less frequently. The predominant health concerns are general health issues and not merely occupationally related health issues, as was the trend in the past.

Currently, the majority of all but the smallest worksites are engaged in some type of health promotion activities. A recent national survey[21] of 1,358 private sector worksites with 50 or more employees disclosed that two-thirds were involved in one or more of nine areas of health promotion. Smoking control was the most common followed by health risk assessment, back care and stress management. Employees cited a variety of reasons for establishing health promotion activities. These included desire to improve employee health, morale and productivity, and to control health-related costs. However, almost 75% of respondents to the survey had no written goals or objectives, making evaluation very difficult. With this surge in interest in health promotion activities, both locally and in the United States, it will be pertinent at this point to review their effectiveness. Scientific evidence available to support specific worksite intervention is as yet limited. In the past few years, the impact of worksite health promotion were assessed by big companies such as Johnson and Johnson and Blue Cross - Blue Shield.

Evaluation of health promotion in the workplace

LIVE FOR LIFE Program at Johnson and Johnson

Johnson and Johnson[22] established a comprehensive health promotion programme named LIVE FOR LIFE (LFL) in 1978, with the help of behavioural scientists, epidemiologists and

health promotion experts.All employees were encouraged to take a nurse-administered Health Profile including behavioural, attitudinal and biometric measures (blood pressure, blood lipids, body fat, height and weight, bicycle ergometry). Health promotion activities included behaviourally oriented programmes dealing with nutrition, exercise, weight control, smoking cessation, stress management, blood pressure control and others. Incentives including clothing and sports equipment were provided to reward participation.

A quasi-experimented design[22] was maintained for a 2-year period among two sets of companies with comparable demographic and job-class characteristics. One set of company population, consisting of 2,600 employees, had the entire LFL programme while the other set was offered only the health screening component to 1,700 employees. After 2 years, approximately 20% of the women and 30% of the men in health promotion companies engaged in regular exercise compared with 7% and 19% in the health-screen-only companies. At LFL companies, 32% of all employees at high-risk for coronary heart disease quit smoking versus 12.9% of high-risk employees at health-screen-only companies.

Another study was conducted to assess the impact of the LFL programme on health benefit costs paid on behalf of employees by Johnson and Johnson, and related utilization of health care services[23]. Two groups of Johnson and Johnson employees (N=5,192 and N= 3,259) exposed to LFL programmes were compared with that of a control group (N=2,955) over a 5-year period (1979-1983). After adjusting for baseline differences, mean annual inpatient cost increases were $43 and $42 for two Live For Life groups versus $76 for the non-Live for Life group (P<0.001)The costs in the study groups approximately doubled during the 5-year study period, while they grew four-fold in the control groups. Live For Life groups also had lower rates of increase in hospital days and admissions. No significant differences were found for outpatient or other health care costs

Cost Containment: Blue Cross-Blue Shield of Indiana:

One of the most compelling cost-containment data to date came from the Blue Cross-Blue Shield of Indiana[24,25]. The study compared claims data for participants and non-participants (N=2,400) in a comprehensive wellness programme for 5 years. They found that although participants submitted more claims than non-participants (ie had a higher utilization), the average payment per participant was lower throughout the course of the study. When payments were adjusted in 1982 dollars, the mean annual health cost of participants was $227.38 compared to $286.73 for non-participants. For 5 years, the average "savings"per employee was $143.60 compared to the programme cost of $98.60 per person, giving a savings to cost ratio of 1.45. A possible selection bias in terms of who is attracted to the programme could have affected the results. Overall, the 5-year cost of the programme was $867,000, with a saving of $1,450,000 in paid claims and an additional $180,000 saved in absence due to illness. The savings were estimated to be 8 to 10 percent of total claims.

The 5-year Blue Cross-Blue Shield of Indiana study also found that interventions led to significant reduction in serum cholesterol and high blood pressure and a lesser reduction in cigarette smoking[24] These reductions in risk factors are positive signs of health enhancement, but the studies are too short term to measure actual effect on disease.

Productivity and Absenteeism of Workers

Studies carried out in other companies also showed that employees participating in health promotion programmes had a 30% lower absenteeism rate than employees from non-participating sites: inspite of the fact that participants started with a 20% higher rate[25].

Health Promotion Programmes in the Community

The Healthy People Project [26]

A large scale community based health promotion project called the "Healthy People Project" was implemented in 1981 in Maryland by the Health Education Center of the Department of Health and Mental Hygiene. This project was aimed at the primary prevention of heart disease, and adopted the approach of helping and sustaining at risk individuals in quitting smoking, losing weight and exercising by providing incentives and organising competitions.

The project's most successful large scale programme was the "Quit and Win" smoking cessation incentive campaign which had 3,060 smokers participating. In a sample of 1,359 participants, an average of 9% were not smoking at the one year telephone follow-up. Another successful programme was the self-help exercise programme developed for 7,000 people in the Maryland Army National Guard to start and maintain exercise routines. It achieved a 37% increase over 2 years in the number of people passing the Army Physical Fitness Test.

In the weight control programmes, a weight loss competition and incentive programme titled "Lose Weight and Win" was conducted, where overweight people were invited to deposit $5, form a team of 10-14 persons, and weigh-in every week for 10 weeks. The team with the highest percentage weight loss at the end of the programme collected the deposits. Two hundred and ninety-six and three hundred and twenty persons entered the programme in 1984 and 1985, and 21% and 27% of the persons respectively lost at least 10 pounds during the 10 weeks. The average weight loss over the 10 week period was 6 pounds.

HEALTH PROMOTION IN SINGAPORE

In Singapore, health promotion has recently taken on great prominence. This surge of interest may be due to strong governmental support for healthy lifestyle as a way of life, greater awareness among the general population on health, and the relation between certain diseases and their lifestyle, as well as the rising health care costs.

Past efforts on health education have largely been the domain of the Training and Health Education (THE) Department, Ministry of Health (MoH). The Employee Health Education Unit of THE was set up in 1984 to provide resources and materials for nationwide health education campaigns which are organised in response to national health trends. Increasingly now, THE is taking on a greater consultative role in health promotion, and plans, coordinates and conducts health promotion programmes at workplaces for the whole of Singapore[27]. The strategies employed by THE to reach out to the various people groups in Singapore include organisation of direct programmes by THE staff at workplaces with the workplace management support; programmes conducted by facilitators who are trained and supported with resources by THE; and dissemination of health messages through the various communication means, usually in conjunction with large-scale, high-profile health campaigns and health fairs.

The National Productivity Board and voluntary organisations like the Cancer Society have also been supporting health promotion programmes. Strong governmental support has been a welcomed feature of anti-smoking measures in recent years, with tough anti-smoking legislative measures prohibiting smoking in public places and advertising; mandatory warning labels on cigarette packs and the levy of high tobacco duties[28].

There is also a greater awareness among the larger corporations in Singapore of the benefits of health promotion at the workplace. Examples of such health promotion programmes would be the Hewlett Packard Nutrition Week (1983), the MoH "Heart Health Program (1987), the Health Fair at Cipher Data International (1986) the Singapore Airlines "No more butts -

quit smoking" (1985)[29]. By and large, efforts to date have been sporadic and unsustained. However, there are indications that many large corporations are beginning to venture into the field of worksite wellness with a more sustained effort in mind, similar to those adopted by the American companies.

DISCUSSION

The methodological approaches to health promotion are far less developed amd more difficult than the epidemiological methods of planning, implementation and evaluation of programmes of disease prevention. There are several reasons for this. First, there is still lack of knowledge on factors conducive to positive health. Very little research has been undertaken on the determinants of positive health as it is very difficult to develop measurements of health as opposed to disease. Thus most scientific work has focused on the causes of disease and on its pathogenesis. Second, health behaviour is very complex as it is influenced by economic, ecological, social and political conditions. Thus strategies of health promotion programmes are far broader than those of disease prevention as they involve politics, advertising, health education, advocacy for health and healthy living, economics, community development and ways to affect changes in peoples' behaviour. We recommend the following areas for future practice and research of health promotion programmes in Singapore.

Planning of Health Promotion Programmes

Health promotion programmes should be tailored towards the needs of their target groups eg occupational groups, family units, school children. The transplantation of existing programmes from other countries should be done with care and modifications should be made to adapt the programmes to suit local needs where appropriate.

Prior to planning health promotion programmes, it is crucial at the conceptualisation stage to clarify, discuss and agree on the meaning of health promotion. This is to ensure all involved agencies share a common understanding of the term. Once a common agreement is reached on the interpretation of health promotion, it can then be translated into clearly defined, relevant. measurable and feasible objectives for action.

In the planning of health promotion programmes, we suggest the use of Tannahill's model as it is a very comprehensive one with the component parts clearly delineated. Tannahill's model can serve as a useful guide to identify key groups and examine their respective roles in health promotion.

While Tannahill's model is useful in identifying key groups in health promotion, Green's PROCEED-PRECEDE framework is useful in detailed planning of the programme itself as it identifies the various phases in planning, implementation and evaluation of the programme. It is a robust model that can be applied to health promotion in a variety of situations. It has been found to serve as a successful model in developing local health department programmes[30], maternal and child projects[31], safety programmes[32] and even as a training curriculum for nurses and other allied health professionals[33].

During the planning phase itself, an evaluation mechanism should be built into the programme and it should look at a broad range of outcomes: health behaviour, physiologic variables, disability, economics, disease occurrence, mortality and even such 'soft' measures as "morale". Qualitative and quantitative components shoul be included in the evaluation.

Integrated and Intersectoral Approach

Individuals do not really have a free choice in health behaviour. The environment in which he lives in, has a major influence in determining his choice of lifestyle. Health promotion is therefore not only concerned with enabling the development of life-skills but also concerned with environmental intervention through legislative, or fiscal controls. With this new perspective, health promotion strategies should be more integrated with other "non-health" domains concerned with socio-economic and community development.

Community Participation in Health Promotion Programmes

Wherever possible, concerted efforts should be made to involve the community actively in the plannng, design, implementation and evaluation of health promotion programmes. This will ensure their acceptability, appropriateness and relevance to the community. The participatory approach is also a means of educating and motivating the community to act on his problems since it is directly involved in the study of its own problems. There is evidence from research and experience that people are more committed to initiating and upholding those changes that they helped design or adapt to their own purpose and circumstances[34].

Health Promotion in the Workplace

Most worksite health promotion programmes have targetted at individuals rather than organization of the environment. Promulgators of wellness appear to be uninterested in the traditional concerns of occupational health and safety and turn attention from the environment to the individual. It should be noted that adequate attention should also be given as to how the workplace organization itself might be made more health enhancing.

Strengthening of Health Promotion in other areas

While the worksite may be an important focus of health promotion activity, the other traditional avenues of health promotion such as national campaigns, Maternal and Child Health Services, School Health Services should still be utilised in synergy with the worksite. Otherwise, a large proportion of the population viz the elderly, the children and the unemployed would not be captured. Ideally, programmes should be developed by Singaporeans for Singaporeans, involving all the avenues opened to the nation for health promotion.

Research in Health Promotion

Research in health promotion should be undertaken in the following areas:

- Ways of measuring lifestyle should be tested in the field.
- Studies should investigate how lifestyles developed, are changed and maintained. In this regard, a case comparison approach can be used to determine the characteristics of people leading a healthy lifestyle and those who do not. Likewise, a case control method can be used to compare obese and non-obese subjects to identify possible social, behavioural and environmental factors associated with obesity.
- Compliance studies on healthy lifestyle regimens such as smoking cessation; weight reduction and diet adherence should be carried out to identify important factors affecting compliance to a healthy lifestyle.
- Evaluation of health promotion programmes should investigate outcomes measured at different levels; proportion of the population reached; knowledge retained; rate of behaviour change; biological measures (eg blood pressure, serum cholesterol, weight) and finally level of health.
- Evaluation should also look into process to understand why it works. Evaluation on the process with regard to the feasibility and acceptability may hold less interest among academics but may be of greater value to practitioners and policy makers. Case studies can be conducted to investigate the process of planning, implementing and evaluating health promotion programmes.
- Quasi experimental designs can be used in institutions or workplaces to assess and compare the effectiveness of different types of health promotion interventions in modifying risk factors and behaviours.

- Studies could be undertaken to compare the cost-effectiveness and cost benefits of different types of health promotion programmes.
- Studies should also be carried out to assess the sustainability of health promotion programmes and factors contributing to their sustainability.

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