

A Review of Research Projects done by Under-Graduate Medical Students over a Period of Fifteen Years in a Medical College in Coimbatore

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Abstract

Background: As per Medical Council of India guidelines, Under-graduate medical students must involve in planning, implementation and evaluation of a health education program. Problem Solving for Better Health (PSBH) is an excellent opportunity provided to fulfill this objective. PSBH participants are encouraged to generate new ideas and methods to more effectively utilize the resources that are currently available to them to help solve specific health problems in their areas. Many of the PSBH projects are Health Education Intervention projects and Behavior change is the core idea of Health Education. We intend to assess the projects documenting behavior change following Health Education Intervention.

Methods: Abstract, Objectives, Methodology, Results, Discussion and Questionnaires of the submitted Health Education Intervention projects were reviewed for data on the Knowledge, Attitude, Practice, and Change in Behavior of participants before and after Health Education Intervention. Data entered in Epi-Info 6.0 and percentage projects showing Knowledge, Attitude and Behavioral change were assessed.

Results: Out of the 243 PSBH projects 177(72.83%) were Health Education Intervention projects. Behavioral assessment before intervention was done in 152(85.87%) studies. 88(49.71%) studies have documented the changes in behavior after intervention and only 38 out of these 88 studies have documented the statistical significance for the change in behavior. 2(0.01%) of the studies have used Health Education Models other than Knowledge Attitude Practice (KAP) Model. Convenient sampling is done in all the studies.

Conclusion: Nearly half of the PSBH projects on Health Education Intervention have documented the change in behavior. The use of appropriate Health Education Models, standard sampling methods, proper statistical analysis and documenting change in Behavior will add value for their study.

Keywords: Problem Solving for Better Health (PSBH), Health Education, Behavioral change

Introduction

According to Medical Council of India (MCI) guidelines, under-graduate medical students must involve in planning, implementation and evaluation of a health education programme during their medical course. Health education

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program can enable students of the health professions to promote better health behavior among the underserved, since such a program provides them with an opportunity to meet and work with people from a different culture in a comfortable setting.

Problem Solving for Better Health (PSBH) is an excellent opportunity provided to fulfill this objective. PSBH as a concept was developed by the Dreyfus Health Foundation (DHF), New York. The mission of the PSBH program is to assist in developing small scale, problem solving projects that will directly benefit many people. PSBH participants are encouraged to generate new ideas and methods to more effectively utilize the resources that are currently available to them to help solve specific health problems in their areas.¹ The goals of the program are to stimulate a series of better-health projects based on individual responsibility and action and to create a collaborative network of small, self-sustaining, and lasting health projects.¹ The satisfaction of having completed a research project and seeing it in print is enough motivation for a young student researcher to want to repeat the feat.² The steps in PSBH projects involve Identify a Problem, Refining the Problem, Decide on a Solution, Framing a Question, Develop an Action Plan – The Study Protocol, Ethical clearance, Take Action, Write the Report and Share the Experience. The PSG Institute of Medical Sciences & Research, Coimbatore was among the first to join this movement as far back as in 1997. This study is a review of the Health Education Intervention projects done under PSBH in the last fifteen years.

Health Education is a process aimed at encouraging people to want to be healthy, to know how to stay healthy, to do what they can individually and collectively to maintain health, and to seek help when needed.³ Behavior change is the core idea of Health Education.⁴ This study is intended to measure the number of projects demonstrating and documenting behavior change and whether it is statistically significant.

It is important to improve the methodological quality of health education research. This can be done by using controlled, preferably randomized, designs, ensuring adequate sample sizes, examining only objective changes in behavior or, better yet, changes in morbidity or mortality.⁵ The limited use of theoretical frameworks, poor statistical analyses, the use of convenient samples and the short post intervention follow-up periods diminish the contribution to research and the formation of strategies to improve the health of communities.⁶

A health behavior theory can be used as a guide to help explain the processes for changing health behavior and the influences of the many forces that affect it, including social and physical environments.⁵ Theories and models are among health educator's most useful tools as they tackle

the challenges of needs assessment, program planning, program implementation, program evaluation, coordination of services, acting as a resource of health information, and communicating needs, concerns, and resources outlined in the Framework.⁷

Effective health promotion operates in a number of dimensions at the same time to create the conditions for change, provide support to change, and to maintain healthy behaviors.⁸ Reviews of the effectiveness of interventions require three components for calculation of effectiveness for reducing health inequalities:

- A valid measure of health status (or change in health status)
- A measure of socio-economic position (or disadvantage); and
- A statistical method for summarizing the magnitude of health differences between people in different groups.⁹

This study intends to measure the effectiveness of interventions in terms of behavioral change and the magnitude of behavioral change in terms of statistical significance. Our objective is to review the Problem Solving for Better Health (PSBH) projects submitted by undergraduate medical students from the year 1998 till 2012 at PSG Institute of Medical Sciences and Research on changes in behavior documented among participants following Health Education Intervention.

Methodology

Our study is a cross-sectional study based on secondary data, conducted over a period of one month. All PSBH projects on Health Education Intervention done by undergraduate students during the period of 1998 – 2012 (210 projects) were included in the study. PSBH projects not involving pre-test and post-test of the Health Education Intervention were excluded.

Collection of data on documented changes of behavior was done. Data of projects measuring Behavior change was analyzed. Statistical significance shown for the Behavior change was also analyzed. A thorough scrutiny of Abstract, Introduction and Justification of the study, Methodology involving Ethical clearance, Sample size calculation, Sampling method, Validated Questionnaire, the change they have recorded in behavior of study participants, results and its statistical significance was done using check list. The discussion and conclusion part were studied for their comments on recommendations and limitations. Data entered in Epi-Info 6.0 and statistical analysis done.

Results and Discussion

Out of the 243 PSBH projects 177(72.83%) were Health Education Intervention projects.

Table 1. Assessment of Behavioral changes documented in the projects

(N=177)

S.No	Variables	n (%)
1	Behavioral assessment before intervention	152(85.87)
2	Change in Behavior documented after intervention	88(49.71)
3	Statistical significance documented for Behavioral change	38(21.47)
4	Health Education Models used	2(0.01)

Behavioral assessment before intervention was done in 152(85.87%) studies. 88(49.71%) studies have documented the changes in behavior after intervention and only 38 out of these 88 studies have documented the statistical

significance for the change in behavior. 2(0.01%) of the studies have used Health Education Models other than Knowledge Attitude Practice (KAP) Model. Convenient sampling is done in all the studies.

Table 2. Assessment of Knowledge (K) and Attitude (A) and the Changes documented

(N=177)

S.No	Variable	Assessment of K and A before intervention	Change Documented after Intervention for K and A
1	Knowledge(K)	174	159(90%)
2	Attitude(A)	54	37(21%)

Change in Knowledge is documented in most of the projects within the specified project period compared to change in Behavior (mostly attempted in nutrition related projects). Studies involving Nutritional disorder related interventions like Anemia, Obesity, PEM, Vitamin A deficiency and Iodized salt usage have observed and documented significant behavior change.

Studies involving Substance abuse related interventions like Alcohol and Tobacco usage have shown behavior change to a smaller extent Knowledge change alone will not bring the desired behavioral change in many situations (e.g., smoking, alcoholism) as it needs periodic reinforcing visits and supportive counseling. Most projects on Smoking and Alcoholism were Awareness creation projects directed towards Primordial prevention in schools.

It is possible to bring about change in Behavior within the constraints of time and resources as evidenced by half (50%) of educational interventions being able to demonstrate and document change in behavior indicating the effectiveness of the Health education program. Time constraint of availability of only one semester to complete the PSBH projects influenced the fact that mostly nutritional interventions could demonstrate improved health as an indicator of effectiveness of the health education intervention. Studies mostly used non validated questionnaires. Use of Validated Questionnaires like Global youth tobacco survey in smoking (GYTS) will add value to the project. Many studies measured change in behavior based on self-report / survey. Efforts to assess the behavioral change through observation could be made wherever possible. Appropriate Health Education Models may be used in various contexts our study did not examine the reasons for failure in behavior change or

reasons why projects did not attempt measuring behavior change.

Conclusion

Nearly half of the PSBH projects on Health Education Intervention have documented the change in behavior. The use of appropriate Health Education Models, standard sampling methods, proper statistical analysis and documenting change in Behavior will add value for their study.

Conflict of Interest: None

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