

Impact assessment of a decision support system on weight management and physical fitness

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ABSTRACT

The study was undertaken to assess the impact of a Decision Support System (DSS) on weight management and physical fitness. DSS was developed using Microsoft visual studio 2005. In order to assess the impact of DSS, 22 obese subjects were selected purposively and further divided in two groups for experimental (12) and control (10). The experimental group was asked strictly to follow the given DSS for one month. DSS study revealed the significant reduction in the intake of energy, fat and carbohydrates whereas significant improvement was observed in the intake of fruits, green leafy vegetables. It was also found to be effective in reducing the body weight, body fat per cent and body fat mass whereas total body water and physical fitness scores were improved significantly. There were no significant alterations observed in any parameter in the control group.

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Key words : Impact assessment, Decision support system, Physical fitness

“Those who do not have time for bodily exercise will sooner or later have to find time for illness.” Edward Stanley.

Exercise is a key part of any effective weight management plan. Healthy weight is an important part of wellness. Maintaining a healthy body weight requires a lifelong commitment to regular exercise, a healthy and balanced diet and effective stress management (Mahan and Escott-stump, 2000). Obesity has reached epidemic proportion globally with approximately 106 billion adults and at least 20 million children under the age of five being overweight (Flegal *et al.*, 2004).

In discussing the treatment of obesity, it is necessary to emphasize that one is dealing with the syndrome than a disease. The treatment of obesity is the simple and yet the most complex of all the treatments. Simplest in the sense that all that required energy restriction and complex in the sense that cellular metabolic, socio-economic, cultural, psychological factors all militate against the maintenance of reduced state. Unfortunately, in our society only the weight reduction period is emphasized and the obese subject is exposed to endless variety of weight reduction programmes which include diet, drugs, hormones, psychotherapy and social treatments.

No doubt, the increased health risks with obesity has created an awareness among the public but the results are not always satisfactory. The wide range of solutions offered by the commercial weight loss industry ranging from "miraculous fat burning pills" to nutritional pre-

determined diets like “crash diet and fat diets” ignore the basic concept for weight loss and the need for changing life long habits. Pre-packaged food regimens strenuous physical activity and training are also in vogue.

Instead of indulging in such short term treatments, the goal of weight reduction should be set towards achieving a permanent weight control. The first step towards this is through acquiring a sound counseling. Diet counseling through computers is the new dimension in counseling at present welcomed by both patients and health team. Computer aided counseling is easy to use, interesting and effective, more accurate and is much faster than human brain (Mageshwari and Sunitha, 1995).

There is an urgent need in India to establish the magnitude of the problem risk estimate for chronic diseases and incorporate management/ precaution strategies within the existing health structure. In developed and developing countries, many projects have demonstrated that enhanced communication efforts can improve the health and well being of populations. Nutrition educators have many opportunities to enhance their work by using new technologies (Kolsa, 1995). Therefore, it was considered worthwhile to assess the impact of a Decision Support System on weight management and physical fitness.

METHODOLOGY

The Decision Support System (DSS) developed by Soni (2010) was used for assessing its impact on weight