A study to evaluate the effectiveness of holistic nursing intervention on Bio-Physiological measures, knowledge, attitude, practice and well-being of patient with insulin dependent diabetes mellitus (IDDM) in a selected hospital, Bardoli, Gujrat

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ABSTRACT

Objectives

The objectives of the study are to –

1. Develop and validate a holistic nursing intervention-a planned teaching programme on Diabetes Mellitus and its Management for patients with insulin dependent diabetes mellitus(IDDM).

2. assess the bio-physiological measures , knowledge , attitude, practice, and well-being of patients with IDDM in experimental and control group in pretest and posttest.

3. compare the mean pretest and posttest bio-physiological measures, knowledge, attitude, practice and well-being scores of patients with IDDM in experimental and control group.

4. evaluate the effectiveness of holistic nursing intervention by comparing the mean pretest and post test bio-physiological measures, knowledge, attitude, practice and well-being scores of patients with IDDM in experimental group after administering holistic nursing intervention.

5. determine the correlation between bio-physiological measures , knowledge, attitude, practice and well-being of patients with IDDM in experimental and control group in posttest.

6. determine the association between bio-physiological measures, knowledge, attitude, practice and well being of patients with IDDM and selected socio-demographic and clinical variables in experimental and control group in posttest.

Theoretical Framework

The study was based on the conceptual framework by Nola J,Pender, Murdaugh C.L. and Parsons M. A. (2006) Modified Health Promotion Model (Revised). The initial version of Health Promotion Model(HPM) was published in 1982. Pender, Murdaugh and Parsons (2006) stated that the HPM “proposed a framework for integrating nursing and behavioural science perspectives on factors influencing health behaviours. The framework offered a guide for exploration of the complex bio-psychosocial processes that motivate individuals to engage in behaviours directed towards the enhancement of health.” The HPM included empirically supported perceived self-efficacy, perceived-
benefit and perceived barriers as predictors of health behaviours. Interpersonal, situational and behavioural influence were recognized as of high theoretical importance as they were having both direct and indirect effects on health promoting behaviour. The revised model also included three new variables which are –

- Activity related affect.
- Commitment to a plan of action.
- Immediate competing demands and preferences.

**Methodology**

Research methodology considered for the study was an evaluative quasi-experimental design with two groups pretest-posttest design with intervention.

**Setting**

The study was conducted in a 250 bedded government-aided hospital run by a Trust - Shri Sardar Smarak Hospital, Bardoli, Gujarat.

**Sample and Sampling Technique**

The sampling technique considered for the study was purposive sampling technique. First 50 subjects were allotted to experimental group and the next 50 subjects were allotted to control group. The research was conducted in three phases. Phase-I included two stages. In stage-I, Socio-demographic data was collected from the subjects in experimental and control group followed by bio-physiological measurement and pretest. In stage-II, holistic nursing intervention-a planned teaching programme on Diabetes Mellitus and its Management was administered to the subjects in experimental group. Phase-II included follow-up of subjects in experimental and control group monthly for six months as 10 subjects per day. Firstly, all the subjects in experimental group were followed in the first five days of the week and later the control group subjects were followed in the second week of the month as 10 subjects per day for five days. Thus, possible contamination of the experimental and control group subjects was prevented. During the follow-up reinforcement of the holistic nursing intervention was given to the subjects in experimental group and usual care and attention was given to the subjects in control group. Phase-III included conducting posttest to both the group subjects, which was on 6th follow-up. The whole study took 7 months including pretest.

**Tools and Technique**

The data collection tools included-

1. Socio-demographic and Clinical Variables Data Sheet.
2. Bio-physiological Measurement Tool that included measurement of height, weight, waist-hip circumference with which BMI and regional adiposity was found out and random blood sugar value(RBS) that was done in the laboratory was collected from the subjects.
3. Knowledge Questionnaire.
4. Attitude Scale.
5. Practice Scale.

**Intervention**
The intervention used was a holistic nursing intervention – a planned teaching programme on Diabetes Mellitus and its Management.

**Major Findings of the study**
The study findings revealed that there was a significant improvement in bio-physiological measures (except regional adiposity), knowledge, attitude, practice and well-being in experimental group compared to control group.

Correlation between the study parameters were found out using Pearson’s Correlation Co-efficient. Correlation between bio-physiological measures, knowledge, attitude practice and well-being in the experimental group posttest showed that there was mild positive correlation between knowledge and BMI ($r=0.08$), knowledge and random blood sugar (RBS) level ($r=0.08$), attitude and well-being ($r=0.22$), attitude and waist-hip ratio ($r=0.03$), attitude and blood sugar (RBS) level ($r=0.23$), well-being and waist-hip ratio ($r=0.03$), well-being and blood sugar (RBS) level ($r=0.01$), BMI and blood sugar (RBS) level ($r=0.16$), and waist-hip ratio and blood sugar (RBS) level ($r=0.12$). A moderately positive correlation was seen between attitude and practice ($r=0.9$), practice and blood sugar (RBS) level ($r=0.5$) and there was mild to moderate negative correlation between other parameters. In control group posttest mild positive correlation was seen between knowledge and well-being ($r=0.11$), knowledge and waist-hip ratio ($r=0.10$), attitude and BMI ($r=0.28$), practice and well-being ($r=0.07$), practice and BMI ($r=0.07$), practice and blood sugar (RBS) level ($r=0.28$), well-being and BMI ($r=0.25$), well-being and waist-hip ratio ($r=0.14$), well-being and blood sugar (RBS) level ($r=0.04$), BMI and waist-hip ratio ($r=0.20$), BMI and blood sugar (RBS) level ($r=0.18$) waist-hip ratio and blood sugar (RBS) level ($r=0.02$) and mild negative correlation was found between other parameters.

Similarly, association between study parameters and selected socio-demographic and clinical variables was found out using Chi-square. Association was seen between knowledge and gender ($\chi^2=17.48$), attitude and number of years with DM ($\chi^2=29.95$), practice and gender ($\chi^2=34.51$), waist-hip ratio and number of years with DM ($\chi^2=85.38$) in the experimental group posttest and no association was seen between any of the study parameter and selected socio-demographic and clinical variables in control group posttest.

**Recommendations for future Research**
The recommendations for future research are –
1. A similar study may be conducted with the diabetic patients on oral hypoglycaemics as subjects.
2. A descriptive study may be conducted with a larger sample size.
3. A true experimental study may be conducted with a larger sample size.
4. A community based study may be conducted to educate the diabetic patients in the community.
5. A study may be conducted by including family members as the family members’ support will help the diabetic patients to adhere to the education programme well and practice diet and exercise schedule completely without any break in practice.
6. A similar study may be conducted with pre-diabetic patients to enable them to learn about prevention as well as management of diabetes mellitus.

**Conclusion**
The holistic nursing intervention on Diabetes Mellitus and its management was effective in improving the BMI, blood sugar levels, knowledge, attitude, practice and wellbeing of patients with diabetes mellitus on insulin therapy. It helps the subjects to adhere to the
diet plan and exercise regularly. The subjects also showed interest in yoga and meditation and they expressed that they were feeling better and peaceful than before. The holistic nursing intervention was effective in helping them to take care of themselves and informed that the family members were also helping and they were reminding them to follow diet plan and perform the exercise.