# SUMMARY

Children receiving leukemia therapy differ from those with any other disease in the treatment modalities. Care of the children receiving leukemia therapy is complex and of great challenge; it requires specialized knowledge and skills. Thus, it needs highly skilled and talented health care personnel, including physicians and nurses as well. For this reason, it is important for nurses to become familiar with all the details of the nursing care for children receiving leukemia therapy.

The aim of this study is to design, implement and evaluate a teaching program for nurses regarding nursing care provided to children receiving leukemia therapy. The research hypothesis was that nurses' knowledge and practice will be improved after the teaching program.

The study was conducted at Benha University Hospital and Benha Specialized Children Hospital, at the hematology and oncology units in pediatric departments and outpatient clinics. A quasi-experimental research design with pre-post assessment was used. Subjects consisted of a purposive sample that involved all available nurses (98) working at the above-mentioned settings regardless their age, level education and years of experience in two shifts (morning and afternoon), over a six-months periods.

The tools of data collection included a knowledge questionnaire, and an observation checklist that were designed by the researcher. The knowledge questionnaire was used to assess nurse's socio-demographic and their knowledge regarding nursing care provided to children receiving leukemia therapy. It included knowledge about leukemia, chemotherapy, as well as radiotherapy, bone marrow transplantation, and

supportive therapy, in addition to nurse role in caring for children with leukemia receiving chemotherapy. The observation checklist was used to assess general nursing processes such as hand washing and scrubbing , measurement of vital signs, weight, and height, as well as specific nursing care such as infection control, cannula insertion,  oral care, and administration of chemotherapy and blood transfusion.

These tools were applied three times during the study, before implementation of the teaching program intervention, immediately after the intervention, and after three months for assessment of retention. The actual fieldwork started by a pilot study that was carried out during August to September 2006 on five nurses to test the applicability of the study tools and setting, and accordingly the necessary modifications were done.

According to the finding of the exploratory phase, the nurses' training needs were determined. Accordingly, the general and specific objective of the program were stated. Program content as well as teaching methods were prepared. The study tools used for assessment (questionnaire sheet, observation sheet) were used to evaluate the effect of the program.

The main finding of the study can be summarized as follows:

- Nurses' age mostly between 20 and 25 years (39,8 %), more than half (54.1%) of them were having diploma in nursing, and only 19.4% were bachelor degree nurses; 45.9% of them had 5 or more years of experience, and the majority (81.6%) did not receive any previous training programs.

- None of the nurses (0.0%) had total satisfactory knowledge at the pre-program phase. At the post-program and follow-up phases, 98.9% and 80.0% of them had satisfactory knowledge ($P < 0.001$).

- Similarly, none of the nurses (0.0%) had adequate practice at the pre-program phase, while all of them (100.0%) had adequate practice at the post-program phase (P<0.001). however, this declined to 11.1% at the follow-up phase, but still higher than the pre-program phase (P < 0.001).

- Knowledge and practice scores had statistically significant positive correlations at the pre-program and the follow-up phases, r = 0.30 and r = 0.40 respectively.

- Statistically significant positive correlations were revealed between knowledge and practice score and nurse's age and experience at the pre-program phase.

- Nurses' age and program attendance were the statistically significant positive independent predictor of nurse's post-program knowledge score.

- Nurse's higher qualification, longer experience years, and program attendance were the statistically significant positive independent predictors of nurse's knowledge score at the follow-up phase.

- Nurses' age, knowledge score, and program attendance were the statistically significant positive independent predictors of nurse's post-program practice score.

- Lower nurse's qualification, higher knowledge score, and program attendance were the statistically significant positive independent predictors of nurse's follow-up practice score.

It is concluded that nurses' pre-program knowledge and practice related to nursing care provided to children receiving leukemic therapy was deficient. The developed teaching program lead to significant improvement in nurse's knowledge and practice, which were retained in part at the follow-up phase. Therefore, it is recommended that the

developed training program be applied on a wider scale in similar settings to further confirm its utility and benefits in improving nurses' knowledge and practice. Further research is suggested the evaluate the long-term effect of such programs.

Based on the finding of the current study, the following recommendations are proposed.

- Nurses involved in the care of children receiving leukemia therapy are integral members of hospitalized children care team; therefore, they should develop and upgrade their knowledge and skills related to the care these children.

- The developed training program could be applied on a wider scale in similar settings to further confirm its utility and benefits in improving nurse's knowledge and practice.

- Standardized nursing procedures should be used to guide the nurses in dealing with children receiving leukemia therapy.

- Further research is suggested to evaluate the long-term effect of such programs, and how much of the gained benefits in terms of improved knowledge and skills is retained over time, and also to assess the effect of refresher booster sessions .