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CERVICAL CANCER

Evaluation of an Education Programme for Chinese Women
Receiving Internal Radiation for Uterine Cervical Cancer

Ms Winnie K.W. SO, MHA, BN, RN

Lecturer, Department of Nursing Studies

The University of Hong Kong

Ms Jacqueline K.T. Yuen, BN, RN

Nurse Specialist, Department of Clinical Oncology

Queen Mary Hospital

Address correspondence and reprint requests:

Ms Winnie K. W. SO

Department of Nursing Studies,

The University of Hong Kong,

4/F., Academic and Administration Block,

Faculty of Medicine Building,

21 Sassoon Road,

Pokfulam, Hong Kong SAR, China.

E-mail address: wkwso@hkusua.hku.hk

Phone number: (852) 2819 2684

Fax number: (852) 2872 6079

Abstract

Aims and Objectives: 1) To provide an education programme for Chinese women receiving internal radiation for uterine cervical cancer; and 2) to examine the effectiveness of the programme in terms of the participants' knowledge about their disease, treatment, skill with performing vaginal douching, and attitudes towards self-care.

Background: Routinely, women are advised to perform vaginal douching at home to reduce the risk of vaginal adhesion and infection. Compliance with vaginal douching may improve through knowledge about the disease and treatment, skills in performing vaginal douching, and attitudes towards self-care. Patient education research has shown that the more information the patients received, the higher their motivation to comply with health professional advice.

Design: A combined pretest/posttest, longitudinal design was used.

Methods: Thirty Chinese women receiving internal radiation for uterine cervical cancer in a regional teaching hospital during the period of June 2003 to August 2004 participated and completed the whole study. They were asked to complete an author-developed quantitative questionnaire at three points in time: 1) before the education programme; 2) after the programme; and 3) at the first day of admission for internal radiation.

Results: Significant differences were found in the knowledge level of the participants over time ($p < 0.001$). The attitudes towards self-care were significantly improved after the education programme ($p < 0.001$). Significant differences were found between educational level and knowledge level ($F=5.01$, $df=1$, $p < 0.05$). There was a significant interaction for age on attitudes towards self-care ($F=4.22$, $df=2$, $p < 0.05$).

Conclusions: Overall, participants' knowledge was significantly enhanced and they were more likely to perform self-care after attending the education programme.

Relevance to Clinical Practice: Results of the study will enhance nurses' sensitivity to patients' needs, and help nurses to design and implement an effective programme for women with uterine cervical cancer.

Key Words: Education Programme, Internal Radiation, Cancer, nursing

Introduction

Self-care after internal radiation treatment for uterine cervical cancer may be enhanced through patient education. Routinely, women are advised to perform vaginal douching at home to reduce the risk of vaginal adhesion and infection. Research has shown that the more information the patients receive, the higher their motivation to comply with health professional advice (Furlong 1995, Jahraus *et al.* 2002, McMullin 1992). Thus, the purposes of the study were:

- 1) to provide an education programme for Chinese women receiving internal radiation treatment for uterine cervical cancer;
- 2) to examine the effectiveness of the programme in terms of the participants' knowledge about their disease, treatment, skills in performing vaginal douching, and attitudes towards self-care; and
- 3) to identify what demographic variables influenced participants' level of knowledge and their attitudes towards self-care.

Method

Sample and design

The research project used a combined pretest/posttest, longitudinal design. Potential subjects were recruited from patients receiving internal radiation for uterine cervical cancer in a regional teaching hospital during the period of June 2003 to August 2004. The eligibility criteria were: 1) Chinese women who were over 18 years old at the time of internal radiation; 2) able to read Chinese; and 3) able to perform self-care after treatment.

While 40 patients met the eligibility criteria initially, there were 30 patients finally for whom data were completed at the three collection points.

Measurement

A questionnaire was developed comprising questions around six areas: 1)

gynaecological complications following internal radiation (6 items); 2) the purpose of vaginal douching (6 items); 3) potential complications of vaginal douching (4 items); 4) how to perform vaginal douching (7 items); 5) attitudes towards performing vaginal douching (10 items); and 6) demographics. The number of correct items was calculated in the first four parts to assess the level of knowledge of the participants. A 5-point Likert scale (5=highly agree; 1=highly disagree) was used to evaluate the participants' attitudes towards vaginal douching. The overall mean scores were calculated to ascertain whether there were any significant differences in the participants' attitudes at the three data collection points. Face and content validity were assessed to ensure the questions were the most relevant and appropriate to include. The internal consistency coefficient (Cronbach's alpha) for the attitude-related questions was 0.70.

Patient education programme

The patient education programme, timed to take about 45 minutes to complete, included a video show, an individual education programme, a demonstration of how to perform vaginal douching, and an introduction to the contents of the booklet to be distributed. Family members of participants who had not received any formal schooling were advised to read the booklet to them and to contact the research team about any queries they had.

Procedure

The hospital institutional review board approved this study. All the potential subjects, who were scheduled to receive internal radiation treatment in the following week, were invited to participate in the study. Those interested were asked to sign the consent form on a voluntary basis and return to the researcher. They were then asked to complete the same set of questions at three points in time: before the education programme (Time 1), after the education programme (Time 2), and on the first day of their admission for internal radiation (Time 3).

Analysis

Descriptive analyses were performed on all variables. Repeated-measures analysis of variance (ANOVA) were used to determine if there were any differences of the overall scores of the level of knowledge of the participants or their attitudes towards self-care in respect of the descriptive characteristics of the participants (i.e., age, educational level, marital status, and household income) across three measurement periods. A p -value of 0.05 or less was considered significant.

Results

The demographic characteristics of the participants are presented in Table 1. The level of knowledge and attitudes towards performing vaginal douching at three measurement periods are presented in Table 2. Significance differences of the knowledge level were found between Time 1 and Time 2 ($p < 0.001$) and Time 1 and Time 3 ($p < 0.001$). There were no significant interactions for demographic variables on the overall mean scores of the knowledge level (all $p > 0.05$). A significant difference ($F=5.01$, $df=1$, $p < 0.05$) was only found by the educational level (no formal education / primary level vs. secondary level or above) with respect to the participants' level of knowledge. The participants who received less formal education had lower overall mean scores of the knowledge level across three measurement periods.

The attitudes towards self-care were significantly improved at Time 2 ($p < 0.001$). No significant difference in attitudes towards self-care was found between Time 1 and Time 3 though the overall mean scores were higher at Time 3. While no statistically significant difference was found between Time 2 and Time 3, the overall mean scores of attitudes were higher at Time 2 (Table 2). A significant interaction was only found for age ($F=4.22$, $df=2$, $p < 0.05$) (Figure 1). There were no significant differences by all demographic groups (all $p > 0.05$) on attitudes towards self-care.

Discussion

The baseline data indicated that participants' knowledge about their disease, treatment and self-care was deficient following their visits to the physician. However, their knowledge was enhanced after attending the programme. Nurses are thus in an ideal position to provide education to this group of patients.

The findings also reveal the influence of participants' education level and age upon knowledge and attitudes thereby pointing to the importance of taking education level and age into account in designing education programmes.

Additionally, the participants' attitudes towards performing vaginal douching after internal radiation were improved after the education programme. However, when comparing the overall mean scores of attitudes towards self-care between Time 2 and Time 3, the overall mean scores were lower at Time 3 though no statistically significant difference was found. Also, no significant difference was found between Time 1 and Time 3 though the participants' attitudes were improved at Time 3. The results reflect that an individual's attitudes may be influenced by various factors. Continuing education and patient needs assessment may help to change attitudes.

Conclusions

This study was conducted to evaluate the effectiveness of an education programme. It demonstrated that overall, participants' knowledge was significantly enhanced and they were more likely to perform self-care after attending the programme. Demographic influence on participants' knowledge and their attitudes towards self-care was explored. The provision of patient education programmes is a major role of nurses and they are in an ideal position to design and implement an effective and efficient programme for women with uterine cervical cancer.

Contributions

Study design: Dr Edith Loh

Data collection and analysis: Dr Daniel Fong, Ms Ruth. Chan, Ms Carmen Cheng, Ms

Winnie Leung, Ms Eve Lai, Ms Shirley Luk, Ms Tiffany Wong, Ms Phoebe Yip

Manuscript preparation: Dr Sarah Kagan, Prof Judith Parker, Dr Wendy Lam

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Table 1
Demographic characteristics (N = 30)

	Frequency	%
Age		
31-40	4	13.3
41-50	13	43.3
51-60	6	20.0
61-70	2	6.7
71-80	5	16.7
Monthly household income (HK\$)		
< 10,000	18	62.1
10,001 – 20,000	8	27.6
20,001 – 30,000	2	6.9
> 30,000	1	3.4
Educational level		
No formal education	3	10.0
Primary	11	36.7
Secondary	14	46.7
Tertiary	2	6.7
Marital status		
Married	21	70.0
Separated / divorced / widowed	6	30.0
Cancer stage		
1	11	36.7
2	14	46.7
3	4	13.3
4	1	3.3

Note.

Missing value for monthly household income = 1; marital status = 3.

UK\$ 1 = HK\$11.0

US\$ 1 = HK\$ 7.8

Table 2

The level of knowledge and attitudes towards performing vaginal douching at three measurement periods (N = 30)

	Time 1 Mean (SD)	Time 2 Mean (SD)	Time 3 Mean (SD)	F Ratio	p
Gynaecological complication following radiotherapy (out of 6 complications: vaginal stenosis, vaginal shortening, vaginal adhesion, vaginal dryness, decrease in hormonal secretion, pre-menopausal syndrome)	2.13 (2.06) ^a	4.67 (2.02) ^b	5.30 (1.42) ^b	235.58	<.001
Purpose of vaginal douching (out of 6 purposes: cleanse the vagina, reduce vaginal infection, prevent vaginal adhesion, helps to break down the scared tissue during radiotherapy, reduce pain and bleeding during vaginal examination)	3.70 (2.25) ^a	5.27 (1.44) ^b	5.57 (.90) ^b	474.26	<.001
Signs of complication of vaginal douching (out of 4 complications: vaginal bleeding, odorous vaginal discharge, vaginal pain, fever)	1.77 (1.59) ^a	2.77 (1.38) ^b	3.30 (1.24) ^b	177.85	<.001
Perform vaginal douching (out of 7 questions: equipment used, how to prepare the diluted solutions for vaginal douching, positioning, procedure, frequency, and after care)	2.77 (1.36) ^a	5.90 (1.21) ^b	6.23 (1.25) ^b	816.01	<.001
Overall mean scores of the knowledge level (out of 23)	10.37 (5.54) ^a	18.60 (4.58) ^b	20.40 (3.65) ^b	549.15	<.001
Overall mean score of attitudes towards performing vaginal douching (out of 5)	4.30 (.52) ^a	4.60 (.37) ^b	4.39 (.43)	6747.22	<.001

Note.

Time 1 = time before the education programme

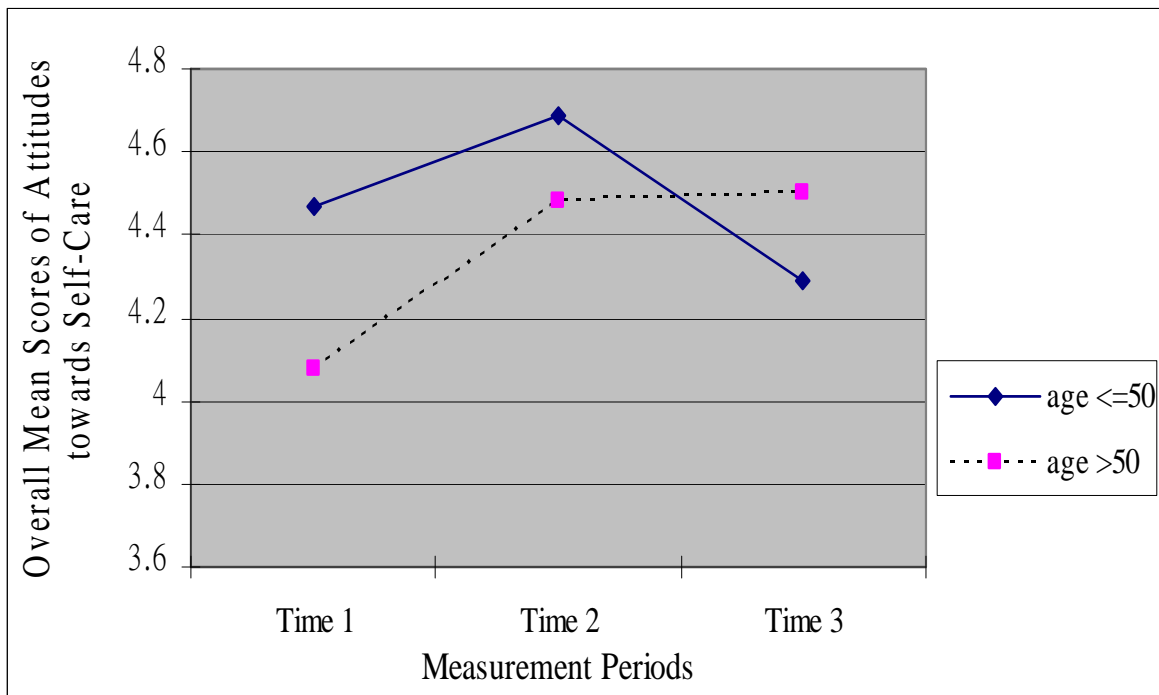
Time 2 = time after the education programme

Time 3 = time during admission for internal radiation

Means with different subscripts (a, b) differ significantly at *p*

Missing values for the overall mean scores of attitudes towards performing vaginal douching = 2.

Figure 1.
Interactions for age on attitudes towards self-care over three measurement periods



Note.

A significant interaction was found for age ($F=4.22$, $df=2$, $p < .05$).

$n_{age \leq 50} = 16$; $n_{age > 50} = 12$.