



Original Article

## Development of an Exercise Program for Postmastectomy Patient\*

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### Abstract

**Purpose:** The purpose of this study was to develop an exercise program for postmastectomy patients. **Method:** This study was conducted from October, 2003 to June, 2004. The exercise program was developed based on literature review and needs assessment using focus group interviews. The subjects for the focus group interview consisted of 11 patients, 13 recovering patients, and 20 nurses from 3 hospitals. Development of the program was proceeded with analysis design and development steps. **Result:** The results of the needs assessment using the focus group interview showed that the exercise program was imperative for postmastectomy patients. Based on the results, a home video tape containing 3 steps, was developed. Each step includes warming-up, stretching,

the main exercise, and cool-down. Steps 2 and 3 include exercises with an elastic band, and an elastic ball. The program was modified after conducting a pre-test. A self-checklist including shoulder mobility, hand strength, arm volume and subjective comments on how they feel will be used before and after the exercise program. **Conclusion:** The exercise program will improve breast cancer patients' quality of life and their physical well-being. Further studies are recommended to test the effectiveness of the exercise program.

Key words : Exercise program, Postmastectomy patients

\* : 2003 8 13 1 : 2004 8 31 2 : 2004 10 13 : 2004 12 3  
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, Pinto Maruyama(1999)

가 2002 10 20.3 14.7% (Korea National Statistical Office, 2003), 1 가 (National Cancer Center, 2004).

Oldervoll, Kassa, Hjermsstad, Lund Loge(2004)

가 , 100% 가 가 (Goss et al., 2003).

가 , 가 (Kim, Kim, Yoo, Yong, & Song, 2003).

가 가 , 30 (Halverstadt & Leonard, 2000),

가 , 가 (Kim & Son, 2001).

CD-ROM

(Chae & Choe, 2001).

가 50% 가 가 가 18

(Sugden, Rezvani, Harrison, & Hughes, 1998).

, Irwin (2003)

2

50%

가 가 Goodwin, Esplen Bulter(1998) 가 1 2.5~ 2Kg

가가 가 2003 8 2004 6 (Analysis), (Design), (Development) <Table 1>.

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(McKenzie, & Kalda, 2003). Holmberg

(2001) 가 가 가 2 , 1 , 가 가 1 , 1



< 2. 1. 1. >  
 “ !종 같은 게 왔을 때 저는 집에 가서 업무를 많이 해서 주머니를 망둥어 식혔는데, ... ( !자 그룹)”, “ !종이랑 부종을 관리해주는 게 정말 중요하구나 하는 생각...( )”

2) [ 2. 1. 1. ]  
 < 2. 1. 1. >  
 “ !, 그거랑 또 암환자 음식 같은 거 그런 걸 잘 알려줬으면 해요( )”, “ !같은 경우는 량암 맞으면 배가 고파서 못살아요. 그런 것도 부작용인가?( )”

< 2. 1. 2. >  
 “ !술 끝나고 필요한 것을 서점에서 책을 사서 보러든가 그런 이야기 해주면 좋은데, ( !복그룹)”, “ !연되는 거 아니년부터 시작해서 아주 무지한거 까지 이렇게 물어보세요. 그러니까 그런 것들에 대한 교육도 필요한 거 같아요( )”

3) [ 3. 1. 1. ]  
 < 3. 1. 1. >  
 “ !단한 어깨 체조 같은 거 책자를 만들어 갖고 한자가 되 원할 때 다 줬으면 좋겠어요( )”, “ !자도 좋지않 집에서 보면서 할 수 있도록 비디오 같은 거 있으면 좋겠어요 ( )”, “ !healing center + 있다는데

1.

44.4 90.0%가 , 5.7 , 1 가 18.2%, 2 가 63.3% , 50.0 , 84.6%가 , 57.4 , 48.2 , 30.4 , 8.4 , 12 5 3 <Table 2>.

1) [ 1. 1. 1. ]  
 < 1. 1. 1. >  
 “ ! ( )”, “ !기 팔 전체가 다 아퍼( )”, “ !님 순강순강 어떻게 복리 면 여기가 아프고, , 2 !이 넘었는데두 여기가 왜 아픈거야( )”, “ !, 어깨도 아프 고, ( )”

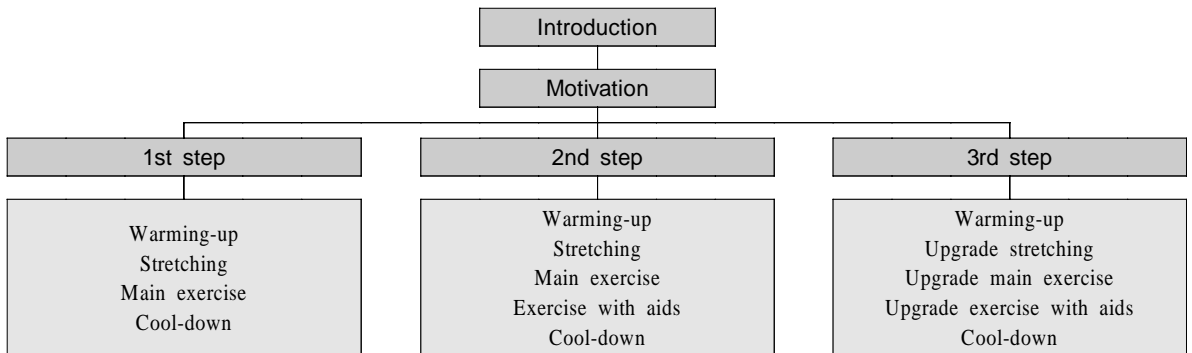
<Table 2> Needs of nursing intervention for breast cancer patients

Category	Group of theme	Themes
1	Pain control Edema control	shoulder pain, arm pain, headache, upper edema, lymphedema, extremities edema
2	Side effect Management after operation	about chemotherapy, about radiotherapy discomfort, exchange of body-image, exchange of life pattern
3	Exercise	home-based exercise,

가서 유방암 체조를 어떻게 하는지 알아보고 싶어(복그  
 림)”, “ ... , 인터넷 사이트가 있었으  
 면 좋겠어요( )”, “ :동이라고 교육을 해도 기억하시  
 는 분들도 거의 없시고, 운동 하나하나 이걸 어떻게 해야  
 하는지 다 물어보시고...( )”, “ 1원에서 바쁘다보  
 면 책자만 전달하고 한자 스스로 보고 운동을 배우도록 하는  
 데 그건 좀 무리가 있죠( )”

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 20 , 3 30  
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<Figure 1> The diagram of exercise program

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(Kim & Kim, 2003). 55cm 3 1, 2 가  
가  
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<Table 3> Contents of exercise program

Step	Movement	Contents	
introduction	Introduction	Introduction of purpose, method, merit	
	Check	Check of self-check list before exercise	
1st step	Warming-up	Flexibility exercise during 2~3minutes / self-paced walking	
	Stretching	Calf → arm → shoulder → neck → lower back → chest	
	Main exercise	Pendulum exercise → butterfly exercise → limbing wall → shaking arms	
	Cool-down	Calisthenics & breathing	
2nd step	Warming-up	Flexibility exercise during 2~3minutes / self-paced walking	
	Stretching	Calf → buttocks → interior thigh → arm → shoulder → neck → lower back → chest	
	Main exercise	Pendulum exercise → butterfly exercise → limbing wall → shaking arms	
	Exercise with aids	Elastic bend	shoulder stretching → arm pushing-up from side to side → stretching bend
		Elastic ball	pressing back firmly against the ball with raising arms overhead → pressing back firmly against the ball with raising arms beside → pressing ball, pressing shoulder
Cool-down	Calisthenics & breathing		
3rd step	Warming-up	Flexibility exercise during 2~3minutes / self-paced walking	
	Stretching	Calf → buttocks → interior thigh → posterior thigh → arm → shoulder → neck → lower back → chest	
	Main exercise	Pendulum exercise → butterfly exercise → limbing wall → shaking arms → stretching height	
	Exercise with aids	Elastic band	shoulder stretching → arm pushing-up from side to side → scratching back → stretching band → pushing down to floor
		Elastic ball	pressing back firmly against the ball with raising arms overhead → pressing back firmly against the ball with raising arms beside → pressing ball, pressing shoulder → holding ball
Cool-down	Calisthenics & breathing		

<Table 4> Self-checklist for exercise

When	List	Contents	Equipments
Before exercise	1	Date, time, BMI, pulse	Weight scale, stopwatch
	2	Upper body postural assessment	Request to other, full-length mirror
	3	Arm girth measure	Tapeline
	4	Range of motion of shoulder	Angular graphy
After exercise	1	Arm girth measure	Tapeline
	2	Range of motion of shoulder	Angular graphy
	3	Upper body endurance	Push-up test used wall
	4	Subjective evaluation	Extra paper

<Table 3>.

2) 가 가		
가 가	가 가	가 (Kim & Kim, 2003; Yoo, Nho, & Choi, 1994), (Han, 1994; Kim, Jeong, & Jung, 2004; Park & Han, 2003).
가	(Yoo, 1996).	(Segal et al., 2001).
가	가	가 가 (Servase, Venhagen, & Bleijenberg, 2003).
가?	가?	가 (Courneya & Ajzen (Theory of Planned Behavior)
가?	가	
(Na et al., 1999)<Table 4>.		
가	가	가
	가	가
(Zabora, Brintzenhofesoc, Curbow, Hooler, & Piantadosi, 2001).	가	CD-ROM
	가,	가
		가
(Halverstadt & Leonard, 2000).		(Courneya & Friedenreich, 1999). 12 Oldervoll (2004)
		, Segal (2001)
		가 Oldervoll (2001)
	Holmes	
Kroenke(2004)		





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