

The evaluation of nurse delivered symptom management program for people with acute coronary syndrome

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Overview

- Study
- Background
- Literature
- Problems
- Aims
- Hypotheses
- Methodology/ instruments Design
- Results
- Discussion and conclusion

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BACKGROUND

- **Coronary Artery Disease** highly prevalent [1]
- **Angina pectoris**: symptom of CAD [2]
- **Symptoms managed** by Sublingual Glyceryl trinitrate **SLGTN** [3]

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Literature review

- Symptom Management Model (SMM) [4]

- SMM: states:
 1. Symptoms experienced
 2. Components of symptom management strategies
 3. Outcomes

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SMM guiding this study

- **Symptoms experienced include** [5]:
 - » chest pain,
 - » discomfort,
 - » heaviness,
 - » SOB,
 - » diaphoresis,
 - » pallor,
 - » anxiety,
 - » nausea and vomiting

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SMM

- **Symptom management strategies**:
 - » self management of angina using medication SLGTN
 - » Nurses role: increasing patients knowledge of use of SLGTN
- **Outcomes**:
 - » improved QOL &
 - » Knowledge of use of SLGTN

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Literature review

- Patients report they would like more discharge information [6]
- Patients report lack of knowledge of use of SLGTN [7]
- Patients with ACS have poor quality of life due to episodes of angina [8]

Problems

1. People with ACS – lack knowledge of how to manage anginal symptoms when at home
2. People with ACS – unmanaged anginal symptoms or uncertainty resulting in poor quality of life

Aims

- The aim is to improve the knowledge and use of sublingual nitro-glycerine and quality of life for this group of people

Hypotheses

1. People with ACS who receive symptom management education package will report higher knowledge and use of GTN compared to people who receive usual care
2. People with ACS who receive symptom management education package will report higher quality of life compared to people who receive usual care

Methodology

- Research design
 - » 2 group Pre test Post test experimental design
 - » Participants recruited and phase 1 data collected: including QOL score and Knowledge and Use of SLGTN score
- » 2 groups
 - Intervention group received the information packages (usual care and education packages)
 - Control group received no information packages (usual care)

Methodology

- Sample
 - » All people with ACS – were invited to participate
 - » Cluster sampling (ACS)
- Inclusion criteria:
 - » Aged over 18 years of age
 - » Able to converse and read English
 - » Able to comprehend and complete the research
 - » Able to consent
 - » Were prescribed the SLGTN medication on 'an necessary' basis
 - » Had telephone access at home



Exclusion criteria

- Diagnosed with co-morbidities of congestive cardiac failure, mobility difficulties, cancer, severe obesity, Chronic Obstructive Airway Disease or severely debilitating Cerebral Vascular Accident
- Diagnosed with dementia, psychological or intellectual disabilities, alcohol dependency or overdose
- Diagnosed with cardiac arrhythmias
- Extended length of stay of more than 6 days in hospital
- Were health care professionals

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Design - site

- Site
 - » Logan Hospital
 - » 16 bed Cardiac ward
 - » 5 bed CCU
 - » Chosen due to medical management of
- Data collection
 - commenced April 2009
 - completed December 2009



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Design - sample

- Sample size
 - » Pilot
 - » 40 participants
 - » Power analysis indicated sample size required 160
- Major study
 - » 200 participants approached (12 refused)
 - » 188 interviewed (20 were rejected due to inclusion criteria)
 - » 168 completed pre test questionnaires
 - » 160 completed pre and post test questionnaires

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Design

- Participant invited in- hospital day prior to discharge
- Consenting participant were asked to complete the following Questionnaires:
 - » Sublingual nitro-glycerine interview schedule (SNIS)
 - » Seattle Angina Questionnaire (SAQ)
 - » Sociodemographic data form

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Instruments

- QOL – measured using the 19 – item Seattle Angina Questionnaire (SAQ) – valid and reliable instrument for specifically cardiac patients
- 5 subscales with scores calculated out of /100
- Higher scores indicated higher quality of life
 - » Physical limitations
 - » Anginal stability
 - » Anginal frequency
 - » Treatment satisfaction
 - » Quality of life

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Instruments

- Knowledge and Use of SLGTM - using the Sublingual Nitro-glycerine Interview Schedule (SNIS) – valid and reliable
- 58 questions
- Subscores for knowledge and use

Knowledge of SLGTM score questions	Use of SLGTM score questions
3	14
52	17/18
48/49	19
50/51	29
53	34/39
57	
54	

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Instruments

- Knowledge scores calculated by summing correct answers for the knowledge questions
- Scores ranged from 0 to 7 (higher score higher knowledge)
- Use scores calculated by summing correct answers for use questions
- Scores ranged from 0 to 5 (higher score higher use)

Design

- Following completion of questionnaires – intervention packs provided
- Symptom management education package
 - Digital versicle disc (DVD)
 - Pamphlet
 - Fridge magnet
- » Developed in consultation with cardiologists (2), intensivist (1), CNC (1), cardiac nurse educators (3), cardiac rehabilitation nurses (3), cardiac ward nurses (3) and literature including manufacturers instructions
- No additional verbal information was provided



Design

- Control group received usual care only
 - » Education by multidisciplinary health care professionals including doctors, nurses, pharmacist
 - » Chest pain assessment service and cardiac rehabilitation service

Results: Demographic

		Gender * Age * Group Cross-tabulation								
		Age								
		21-30 YEARS	31-40 YEARS	41-50 YEARS	51-60 YEARS	61-70 YEARS	71-80 YEARS	81-90 YEARS	Total	
INTERVENTION GROUP	Gender MALE	Count	1	4	9	12	10	6	2	42
		% within Gender	24%	45%	19.0%	31.0%	23.8%	54.2%	4.0%	100.0%
	FEMALE	Count	0	5	6	11	9	7	4	42
		% within Gender	0%	11.9%	14.3%	26.2%	31.4%	31.7%	9.6%	100.0%
Total		Count	1	9	15	23	19	13	6	66
		% within Gender	1.2%	9.3%	18.7%	28.6%	22.8%	15.5%	7.1%	100.0%
CONTROL GROUP	Gender MALE	Count	0	7	12	11	10	7	58	
		% within Gender	0%	11.9%	12.7%	21.4%	20.0%	19.2%	12.2%	100.0%
	FEMALE	Count	0	4	9	6	6	4	25	
		% within Gender	0%	11.9%	18.8%	17.2%	22.7%	22.3%	17.2%	100.0%
Total		Count	0	11	21	17	16	12	84	
		% within Gender	0%	13.1%	24.3%	20.2%	19.0%	14.3%	100.0%	

Results: Knowledge of SLGTN scores

Report			
Group		Knowledge Score (0-10)	Knowledge (0-10)
INTERVENTION GROUP	Mean	2.54	5.88
	N	74	74
	Std. Deviation	2.556	1.768
CONTROL GROUP	Mean	2.35	4.84
	N	83	83
	Std. Deviation	2.643	2.138
Total	Mean	2.44	5.25
	N	155	155
	Std. Deviation	2.611	2.021
	Range	7	7

ANOVA Table						
		Sum of Squares	df	Mean Square	F	Sig.
Knowledge (SLGTN score) * Group	Between Groups (Combined)	14.33	1	14.33	211	.547
	Within Groups	1917.248	157	12.205		
	Total	1931.582	158			
Knowledge (SNIS 2) * Group	Between Groups (Combined)	28.549	1	28.549	7.133	.008
	Within Groups	417.265	157	2.657		
	Total	445.814	158			



Results: Use of SLGTN scores

Report			Use of SNE1	Use of SNE2
INTERVENTION GROUP	Mean	2.34	4.25	
	N	76	76	
	Std. Deviation	2.133	1.287	
Range		5	5	
CONTROL GROUP	Mean	2.43	3.86	
	N	83	83	
	Std. Deviation	2.159	1.491	
Range		5	5	
Total	Mean	2.39	4.04	
	N	159	159	
	Std. Deviation	2.114	1.407	
	Range	5	5	

ANOVA Table						
	Sum of Squares	df	Mean Square	F	Sig.	
Use of SNE1 * Group	333	1	333	.074	.789	
Between Groups (Combined)	765.491	157	4.884			
Within Groups	765.824	158	4.847			
Total	1531.315	315				
Use of SNE2 * Group	5177	1	5177	3.164	.077	
Between Groups (Combined)	305.516	167	1.829			
Within Groups	312.692	158	1.980			
Total	618.208	325				

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Results: Physical limitations of SAQ

Report					Physical Limitations 1	Physical Limitations 2
INTERVENTION GROUP	Mean	85.7142	76	76.3892		
	N	76	76	76		
	Std. Deviation	106.48108		27.77041		
Range						
CONTROL GROUP	Mean	73.1620	83	75.8522		
	N	83	83	83		
	Std. Deviation	25.73350		25.23384		
Range						
Total	Mean	79.1656	159	76.2211		
	N	159	159	159		
	Std. Deviation	77.92382		23.41238		
	Range					

ANOVA Table						
	Sum of Squares	df	Mean Square	F	Sig.	
Physical Limitations 1 * Group	8254.801	1	8254.801	1.031	.312	
Between Groups (Combined)	553130.609	157	3522.799			
Within Groups	559387.750	158	3540.429			
Total	1082518.359	315				
Physical Limitations 2 * Group	8409	1	8409	.012	.915	
Between Groups (Combined)	108616.646	166	654.317			
Within Groups	108825.351	158	695.097			
Total	217441.997	324				

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Results: Anginal stability of SAQ

Report					Anginal stability 1	Anginal stability 2
INTERVENTION GROUP	Mean	76.7188	83	81.8579		
	N	76	76	76		
	Std. Deviation	27.80761		27.53594		
Range		100.00		100.00		
CONTROL GROUP	Mean	74.9388	83	77.3434		
	N	83	83	83		
	Std. Deviation	31.44485		28.94427		
Range		100.00		100.00		
Total	Mean	77.2327	159	79.5998		
	N	159	159	159		
	Std. Deviation	29.79519		28.25273		
	Range	100.00		100.00		

ANOVA Table						
	Sum of Squares	df	Mean Square	F	Sig.	
Anginal stability 1 * Group	312.854	1	312.854	1.031	.312	
Between Groups (Combined)	135016.436	157	866.793			
Within Groups	135082.390	158	854.952			
Total	270098.826	315				
Anginal stability 2 * Group	434.268	1	434.268	.542	.463	
Between Groups (Combined)	125883.072	167	753.785			
Within Groups	128119.239	158	811.514			
Total	253992.311	325				

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Results: Anginal frequency of SAQ

Report					Anginal frequency 1	Anginal frequency 2
INTERVENTION GROUP	Mean	38.9312	76	42.1711		
	N	76	76	76		
	Std. Deviation	28.41384		30.93519		
Range		100.00		100.00		
CONTROL GROUP	Mean	50.0000	83	57.5301		
	N	83	83	83		
	Std. Deviation	27.33841		32.13268		
Range		100.00		100.00		
Total	Mean	45.5283	159	55.7454		
	N	159	159	159		
	Std. Deviation	27.76935		31.56197		
	Range	100.00		100.00		

ANOVA Table						
	Sum of Squares	df	Mean Square	F	Sig.	
Anginal frequency 1 * Group	38.931	1	38.931	.059	.824	
Between Groups (Combined)	121809.587	157	775.863			
Within Groups	121839.223	158	771.134			
Total	243648.810	315				
Anginal frequency 2 * Group	854.486	1	854.486	.857	.359	
Between Groups (Combined)	156356.637	167	936.507			
Within Groups	157389.637	158	995.441			
Total	313746.274	325				

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Results: Treatment satisfaction of SAQ

Report					Treatment Satisfaction 1	Treatment Satisfaction 2
INTERVENTION GROUP	Mean	76.5125	76	78.1184		
	N	76	76	76		
	Std. Deviation	29.87315		25.85939		
Range		100.00		100.00		
CONTROL GROUP	Mean	74.5482	83	77.4353		
	N	83	83	83		
	Std. Deviation	32.87750		30.97417		
Range		100.00		100.00		
Total	Mean	75.5110	159	77.7454		
	N	159	159	159		
	Std. Deviation	29.96844		26.76244		
	Range	100.00		100.00		

ANOVA Table						
	Sum of Squares	df	Mean Square	F	Sig.	
Treatment Satisfaction 1 * Group	191.579	1	191.579	.178	.673	
Between Groups (Combined)	141711.573	157	902.621			
Within Groups	141672.543	158	896.655			
Total	283384.116	315				
Treatment Satisfaction 2 * Group	16.031	1	16.031	.025	.879	
Between Groups (Combined)	127366.031	167	762.641			
Within Groups	127389.562	158	806.263			
Total	254755.593	325				

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Results: Quality of life of SAQ

Report					Quality of Life	Quality of Life
INTERVENTION GROUP	Mean	71.2891	76	72.4783		
	N	76	76	76		
	Std. Deviation	20.85550		26.31320		
Range		100.00		100.00		
CONTROL GROUP	Mean	68.7752	83	71.3858		
	N	83	83	83		
	Std. Deviation	32.21756		34.38892		
Range		100.00		100.00		
Total	Mean	69.9999	159	71.9380		
	N	159	159	159		
	Std. Deviation	31.13557		31.94719		
	Range	100.00		100.00		

ANOVA Table						
	Sum of Squares	df	Mean Square	F	Sig.	
Quality of Life 1 * Group	99.437	1	99.437	.053	.781	
Between Groups (Combined)	153078.535	157	974.959			
Within Groups	153059.091	158	968.728			
Total	306137.626	315				
Quality of Life 2 * Group	47.352	1	47.352	.046	.830	
Between Groups (Combined)	161412.078	167	966.539			
Within Groups	161460.830	158	1021.904			
Total	322872.908	325				

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Discussion

- The symptom management education package statistically improved the knowledge of SLGTN for the intervention group
- The symptom management education package improved the use of SLGTN but not statistically for this group of people
- The symptom management education package had no statistical effect on physical function, anginal stability, anginal frequency, treatment satisfaction or quality of life for this group of people

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Discussion

- Preferred resource for this group of people was the fridge magnet
- Easy to read, easy to access, constantly present on the fridge
- Often patients explained that they had not watched the DVDs and did not read the pamphlet because they had watched and read many DVDs and pamphlets

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Discussion

- Other factors are probably involved in the patients quality of life scores generally the degree of the disease poor quality of life was related to people with longer history of CAD and the education package had no effect on the degree of disease
- Issues raised over the SNIS instrument
 - » The instrument was not user friendly, there were too many questions (68 items)
 - » Concerns regarding reliability and validity
- Patients in this lower socioeconomic group tended not to interested in post recovery education – comments by many patients were “I’m not sure”

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Conclusion

- For this group of people providing an easy to read and access fridge magnet statistically significantly improved the knowledge of how to use SLGTN
- There was no statistically difference in Quality of Life subscales

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References

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Questions??

Thank you for listening

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