

Supplementary 1. The Change of Topics of Korean Pain Management Nursing Research according to Degree Centrality over Time

Rank	2004~05	2006~07	2008~09	2010~11	2012~13	2014~15	2016~17
1	patient	patient	patient	pain	patient	pain	pain
2	pain	RNs	pain	patient	pain	patient	patient
3	RNs	pain	knowledge	RNs	pain management	RNs	pain management
4	cancer	cancer	symptom	nursing care	RNs	knowledge	nursing care
5	anxiety	symptom	experiment group	knowledge	development	health	knowledge
6	knowledge	knowledge	education	surgery	cancer	children	education
7	score	pain management	postoperative	pain management	hospice palliative care	older adults	performance
8	education	hospice palliative care	pain management	care	analgesia	program	RNs
9	music therapy	education	hospice palliative care	postoperative	education	nursing care	older adults
10	hospital	nursing care	family	education	QOL	PCA	factor
11	hospice palliative care	assessment	cancer	attitude	care	postoperative	attitude
12	care	PCA	factor	PCA	program	pain management	postoperative
13	symptom	development	care	management	performance	education	QOL
14	pain management	care	surgery	female	knowledge	EBP	development
15	factor	program	score	control group	hospital	surgery	depression
16	<i>distress</i>	pain relief	program	program	management	management	sleep
17	postoperative	pain control	female	experiment group	symptom	hospice palliative care	self-help program
18	need	need	control group	cancer	nursing care	experiment group	PCA
19	depression	management	nursing care	score	attitude	care	score
20	cancer pain	attitude	health	satisfaction	score	need	care
21	ward	spiritual	analgesia	hospice palliative care	intervention	assessment	assessment
22	<i>terminal cancer patients</i>	score	RNs	gynecology	clinic	analgesia	surgery
23	<i>stress</i>	postoperative	nausea	scale	assessment	guideline	pain relief
24	<i>physicians</i>	hospital	development	anxiety	scale	symptom	neonate
25	measurement	female	caregiver	analgesia	older adults	physical	management
26	family	flexibility	attitude	evaluation	barrier	home	home
27	<i>exercise</i>	family	anxiety	assessment	anxiety	development	guideline
28	surgery	analgesia	<i>wound</i>	<i>puncture</i>	EBP	control group	<i>dementia</i>
29	sleep	<i>system</i>	shoulder	performance	strategy	attitude	<i>chronic pain</i>
30	<i>session</i>	surgery	neonate	pain control	quality	anxiety	cancer
31	program	<i>side effect</i>	measurement	neonate	postoperative	score	behavior
32	pain relief	satisfaction	management	nausea	need	satisfaction	analgesia
33	<i>lung</i>	<i>physical activity</i>	intensity	measurement	measurement	performance	<i>protocol</i>
34	arthritis	participant	hospital	intervention	guideline	pain relief	program
35	QOL	intervention	cancer pain	hospital	depression	pain control	perception
36	<i>therapy</i>	home	<i>back pain</i>	health	control group	<i>foot</i>	measurement
37	shoulder	health	<i>anesthesia</i>	factor	<i>administration</i>	female	<i>laparoscopy</i>
38	<i>self-efficacy</i>	experiment group	<i>support</i>	development	<i>setting</i>	family	<i>index</i>
39	questionnaire	evaluation	<i>spinal</i>	depression	satisfaction	factor	female
40	quality	caregiver	pain relief	arthritis	oncology	clinic	<i>diabetic mellitus</i>
41	<i>prognosis</i>	behavior	older adults	<i>aromatherapy</i>	female	arthritis	control group
42	<i>preference</i>	barrier	need	QOL	evaluation	<i>ADLs</i>	<i>confidence</i>
43	physical	<i>abdominal</i>	music therapy	<i>unit</i>	<i>death</i>	treatment	children
44	oncology	<i>vomiting</i>	<i>menopausal</i>	<i>spouse</i>	cancer pain	spiritual	cancer pain
45	<i>massage</i>	<i>version</i>	<i>fatigue</i>	<i>preoperative</i>	breast	perception	<i>NRS</i>
46	management	<i>validity</i>	<i>epidural</i>	<i>knee</i>	<i>adult</i>	participant	<i>urine</i>
47	intervention	treatment	clinic	<i>headache</i>	PCA	nausea	symptom

Supplementary 1. Continued

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48	intensity	<i>strength</i>	breast	flexibility	surgery	measurement	need
49	<i>health care professionals</i>	self-help program	barrier	clinic	research	hospital	hospital
50	gynecology	<i>reduction</i>	<i>agreement</i>	cancer pain	questionnaire	<i>distraction intervention</i>	<i>dysmenorrhea</i>

Bold letters in 2016~2017 are keywords ranked higher than previous years. Italic letters are keywords that appear only in that period.

ADLs=Activities of daily living; EBP=Evidence based practice; NRS=Numeric rating scale; PCA=Patient controlled analgesia; QOL=Quality of life; RNs=Registered nurses.