



Title	Person-centered Integrated Care for Older Adults with Complex Needs among the Care Continuum: Perspectives from Emergency Department Transition and Pre-/Postoperative Coordination
Author(s)	王, 惠婷
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## Abstract of Thesis

Name (Wang Huiting)	
Title	Person-centered Integrated Care for Older Adults with Complex Needs among the Care Continuum: Perspectives from Emergency Department Transition and Pre-/Postoperative Coordination (複雑なニーズを持つ高齢者に対する人中心の統合ケア：ケアの継続性を考慮した救急部門の移行と術前術後の連携に関する視点)

## Abstract of Thesis

**Background:** With aging, especially in Japan, dementia and hip fractures have become critical healthcare challenges. To effectively promote integrated care in specific practices, this study systematically identifies appropriate ED transitional care for NH residents with dementia and preoperative health predictors of hip fracture recovery. **Methods:** This dissertation includes two studies. Study I is a retrospective cohort analysis of Osaka NHI data from 26,606 older adults who underwent hip fracture surgery between 2012 and 2018. Key variables included preoperative age, sex, outpatient visits, pre- and postoperative LOS, prescriptions, and intensive resource utilization. Quantile and ordinal regressions were performed, and independent variables with  $P < 0.001$  adjusted by Holm-Bonferroni and Benjamini-Hochberg methods were reported. Study II is a scoping review following PRISMA guidelines systematically summarized evidence from six international, one Japanese, and three Chinese-language databases and unpublished literature identified in May 2024. **Results:** Study I identified strong factors of multiple postoperative care ( $P < 0.001$ ): (1) Females had shorter postoperative LOS at 90th, shorter diabetes prescriptions or drip injections, but required prolonged antihypertensive, antiosteoporosis, and antidementia prescriptions; (2) Older adults had extended use of urinary catheters and drip injections but shorter antiosteoporosis and diabetes prescriptions; (3) Longer LOS correlated with extended postoperative LOS (strongest at q25), catheter uses, but decreased antihypertensive and antidementia prescriptions; (4) Multiple preoperative care utilizations were strong predictors at q25 of postoperative LOS, with some being positive. Prolonged preoperative antidementia, constipation, diabetes prescriptions, or drip injections required extended multiple postoperative prescriptions or intensive care. Study II categorized 54 pieces of evidence into six major domains: (1) resource support transfer-related assessments; (2) resource support, shared decision-making, and early ACP; (3) standardized multimodal information transfer; (4) designated ED and NH transition coordinators; (5) enhanced facility collaboration; (6) education, research, and policy beyond the transfer interface. **Conclusion:** As key integrated care aspects, NH-to-ED care transitions and preoperative long-term and postoperative health associations require more comprehensive, consensus-based, and targeted evidence. Despite resource-supported, standardized, person-centered TC, significant gaps remain in clear TC evidence for diverse subpopulations and NH cultural models. Policies, education, and innovations are needed. Key risks during postoperative shorter LOS include preoperative LOS (the strongest factor), anti-osteoporosis, and antihypertensive prescriptions. Males faced higher risks during longer LOS. Sex-, age-specific, and preoperative LOS impacts postoperative care variations. Additionally, Prolonged preoperative antidementia, constipation, diabetes prescriptions, or drip injections required extended multiple postoperative prescriptions or intensive care. Comprehensive tracking of preoperative long-term health factors and addressing care disparities are crucial.

## 論文審査の結果の要旨及び担当者

氏名 ( Wang Huiting 王惠婷 )	
論文審査担当者	(職)
主査	教授
副査	教授
副査	教授
副査	准教授
	氏名
	竹屋泰
	武用百子
	上野高義
	山川みやえ

## 論文審査の結果の要旨

**1. Abstract Background:** With aging, especially in Japan, dementia and hip fractures have become critical healthcare challenges. To effectively promote integrated care in specific practices, this study systematically identifies appropriate ED transitional care for NH residents with dementia and preoperative health predictors of hip fracture recovery. **Methods:** This dissertation includes two studies. Study I is a retrospective cohort analysis of Osaka NHI data from 26,606 older adults who underwent hip fracture surgery between 2012 and 2018. Key variables included preoperative age, sex, outpatient visits, pre-and postoperative LOS, prescriptions, and intensive resource utilization. Quantile and ordinal regressions were performed, and independent variables with  $P < 0.001$  adjusted by Holm-Bonferroni and Benjamini-Hochberg methods were reported. Study II is a scoping review following PRISMA guidelines systematically summarized evidence from six international, one Japanese, and three Chinese-language databases and unpublished literature identified in May 2024. **Results:** Study I identified strong factors of multiple postoperative care ( $P < 0.001$ ): (1) Females had shorter postoperative LOS at 90th, shorter diabetes prescriptions or drip injections, but required prolonged antihypertensive, antiosteoporosis, and antidementia prescriptions; (2) Older adults had extended use of urinary catheters and drip injections but shorter antiosteoporosis and diabetes prescriptions; (3) Longer LOS correlated with extended postoperative LOS (strongest at q25), catheter uses, but decreased antihypertensive and antidementia prescriptions; (4) Multiple preoperative care utilizations were strong predictors at q25 of postoperative LOS, with some being positive. Prolonged preoperative antidementia, constipation, diabetes prescriptions, or drip injections required extended multiple postoperative prescriptions or intensive care. Study II categorized 54 pieces of evidence into six major domains: (1) resource support transfer-related assessments; (2) resource support, shared decision-making, and early ACP; (3) standardized multimodal information transfer; (4) designated ED and NH transition coordinators; (5) enhanced facility collaboration; (6) education, research, and policy beyond the transfer interface. **Conclusion:** As key integrated care aspects, NH-to-ED care transitions and preoperative long-term and postoperative health associations require more comprehensive, consensus-based, and targeted evidence. Despite resource-supported, standardized, person-centered TC, significant gaps remain in clear TC evidence for diverse subpopulations and NH cultural models. Policies, education, and innovations are needed. Key risks during postoperative shorter LOS include preoperative LOS (the strongest factor), anti-osteoporosis, and antihypertensive prescriptions. Males faced higher risks during longer LOS. Sex-, age-specific, and preoperative LOS impacts postoperative care variations. Additionally, Prolonged preoperative antidementia, constipation, diabetes prescriptions, or drip injections required extended multiple postoperative prescriptions or intensive care. Comprehensive tracking of preoperative long-term health factors and addressing care disparities are crucial.

## 2. Doctoral Dissertation Defense Summary

**2.1 Question:** Did you implement person-centered integrated care models in your research? **Answer: Key contributions:** A flexible integrated care framework of common components and relationships suitable for emergency referrals and perioperative care. It includes three levels of the Rainbow person-centered integrated care model for chronic disease management. **Future Direction (p. 58):** ① Specialized person-centered models for emergency/perioperative contexts; ② Theory-driven rigorous validation studies.

**2.2 Question:** How to understand the mechanisms of preoperative constipation prescriptions, urinary catheters, and negative factors of postoperative LOS? **Answer:** (1) **Preoperative constipation and urinary catheters Mechanisms:** Constipation and catheter use disrupt fluid and metabolic balance. They can potentially delay postoperative recovery and prolong LOS. However, effective management can improve them. **Insights:** Thorough preoperative assessments of and early management of constipation and fluid imbalances (2) **Preoperative intravenous injections:** Intravenous fluids administered preoperatively help maintain hydration and electrolyte balance, faster recovery, and shorter LOS. (3) **Effective nursing care** is critical, particularly in fluid management. Future research should assess demographics, care system, and cultural variations by integrating accurate and comprehensive healthcare data.

**2.3 Question:** What practical implications for nursing care from your findings?

**Answer:** (1) Standardizing person-centered TC. (2) Nurses should conduct thorough preoperative assessments of long-term health factors and complex medication regimens, addressing care disparities. (3) Targeted integrated care education and training for patient subgroups.

**2.4 Question:** How do you expand your research further upon returning to China in the future? **Answer:** Further research should focus on culturally adapted TC models, particularly for older adults with dementia and local NH practices; Targeted, comprehensive preoperative assessments in Chinese care

contexts; and Digital health tools to support person-centered integrated care. Results of the above review, the candidate was determined to be worthy of the award of the degree of Doctor of Science in Nursing.