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Use of motivational interviewing in patient care during the surgical process: review

Keziban Öztürk*, Hülya Bulut
Department of Nursing, Faculty of Health Sciences, Gazi University, Ankara, Turkiye

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ABSTRACT

Surgical interventions play a significant role as a fundamental component of clinical management in the treatment process of many diseases. It is known that health-related behavioral risk factors are high in the surgical population. The surgical process may represent a "teachable moment" when individuals may be more motivated to adopt risk-reducing health behaviors. Healthcare professionals working in this field can recognize these "teachable moments" and utilize evidence-based approaches, such as motivational interviewing, to support behavioral change in individuals. The purpose of this review is to evaluate the effect of motivational interviewing (MI) on the acquisition and maintenance of healthy behaviors in patients undergoing surgery. To this end, the literature on MI in relation to the acquisition of healthy behaviors in patients undergoing surgery and the improvement of this process for better patient outcomes was reviewed, and recommendations for clinical practice were provided.

Keywords: Motivational reviewing, perioperative care, nursing, surgery

INTRODUCTION

Today, technological innovations and advances in medical science have contributed to a significant increase in life expectancy; concurrently, the likelihood of individuals having two or more chronic diseases simultaneously has also increased. Noncommunicable diseases such as cardiovascular diseases, stroke, type 2 diabetes, and cancer are critical because they constitute the most prevalent disease groups globally and are the primary determinants of morbidity, disability, and impaired quality of life (Freisling et al., 2020). In this regard, the World Health Organization's (WHO) 2013-2020 Global Action Plan for the Prevention and Control of Noncommunicable Diseases sets out comprehensive strategies to reduce major risk factors such as obesity, tobacco use, physical inactivity, harmful alcohol consumption, and unhealthy diet, and to control the global burden of noncommunicable diseases (Organization, 2013). A study has shown that healthy lifestyle behaviors adopted before diagnosis reduce the risk of cancer and cardiometabolic diseases and are inversely proportional to the likelihood of developing multiple morbidities (Freisling et al., 2020).

Surgical interventions also play a crucial role in the treatment of these diseases, and it is well established that behavioral risk factors related to health are prevalent in the surgical population. The literature provides strong evidence that behavioral risk factors such as malnutrition, tobacco use, and alcohol consumption can negatively affect outcomes during the surgical process-for example, delayed wound healing and increased complication rates (Katayama et al., 2024; Vickery, Fowler, Prowle, & Pearse, 2025). These behaviors, which are embedded in an individual's lifestyle, lead to surgical weakness and an increased risk in the preoperative period, significantly negatively affecting the postoperative recovery process (Kamarajah & Yeung, 2025).

The surgical treatment method is considered a traumatic process in itself. When individuals are faced with surgery as a treatment option after receiving a diagnosis, this situation can lead to emotional responses such as anxiety, sadness, worry, and fear (Dobson, 2020; J. Lin et al., 2024). However, surgery also has the potential to increase an individual's awareness and insight into their own health. Individuals with increased health awareness have a greater need for the knowledge and guidance of health professionals and become more receptive to their guidance. In this context, the surgical process can serve as a "teachable moment" that may motivate individuals to adopt risk-reducing health behaviors. Healthcare professionals working in this field can recognize these "teachable moments" and utilize evidence-based approaches, such as motivational interviewing (MI), to support behavioral change in individuals (Fong et al., 2023). The literature emphasizes that MI is effective when applied by nurses in patient care (İşleyen, Özdemir İ, & Yoldemır Ş, 2025; Steffen, Mendonça, Meyer, & Faustino-Silva, 2021; Taheri, Nasiri, Namdari, & Salmani, 2023; Wu, Yu, & Xu, 2021). Nurses have a natural advantage in applying MI techniques due to their continuous and direct interaction with patients, their ability to establish trust-based therapeutic relationships, and their proximity to

***Corresponding Author:** Keziban Öztürk, kzbnerturunc@gmail.com

patients' daily care processes (Vujanić, Mikšić, Barać, Včev, & Lovrić, 2022; Kızılırmak & Demir, 2018). This leads to positive outcomes, including increased patients' self-efficacy, strengthened treatment adherence, improved rehabilitation participation, and the development of risk-reducing health behaviors (Steffen et al., 2021; Taheri et al., 2023; Wu et al., 2021). Furthermore, nurses who integrate MI into routine care processes increase cost-effectiveness (Wu et al., 2021) and contribute to patients sustaining behavioral changes during the pre- and postoperative periods (Dobbels et al., 2017).

MOTIVATIONAL INTERVIEWING

The conceptual framework of MI was first defined in 1983 by William Miller to support the treatment process of individuals with alcohol use disorders. Miller and Rollnick subsequently developed the original theoretical foundations of MI and expanded its scope by adapting the method to a broader range of applications (Miller, 2023). MI is defined as a collaborative, goal-oriented form of communication that places special emphasis on the language of change. It aims to strengthen personal motivation and commitment to goals by facilitating the individual's discovery and exploration of their own reasons for change in an atmosphere of acceptance and compassion. (Beckwith & Beckwith, 2020). In other words, MI is a method that encourages the client to discuss behavior change in line with their own values and interests. In the MI process, change is carried out in collaboration with the client; the focus is on discovering the individual's strengths rather than their weaknesses, and the client's experiences and perspective serve as the basis (İşleyen et al., 2025).

MI is a contemporary technique that combines relationship-building principles with therapeutic approaches to address various health issues and is increasingly utilized in the health sciences. This method incorporates cognitive-behavioral strategies that target different stages of change in the patient, adopting a distinctly patient-centered approach. The counselor aims to strengthen the individual's internal drive for change by helping them discover their internal motivation and resolve their indecision about change (Bhat, Rajesh, Mohanty, & Shenoy, 2020). The core spirit of MI is based on supporting and strengthening the trust-based therapeutic relationship, which is critical to treatment success. The following components can define this spirit:

Partnership

Establishing a non-hierarchical, peer-to-peer communication and collaboration relationship with the patient. In this approach, the counselor does not adopt the role of an "expert" positioned above the patient.

Acceptance

Embracing a fundamental acceptance and empathy towards the patient's needs, experiences, and perspectives. This includes showing unconditional respect for the patient and preserving their autonomy in their choices and decisions regarding behavioral change (patient autonomy).

Compassion

The counselor prioritizes the patient's needs over their own interests and demonstrates a sincere, compassionate approach toward the patient's life and experiences.

Uncovering Motivation for Change

Supporting the patient in discovering and strengthening their own reasons for change. This also involves developing an understanding of the mismatch between the current problem behavior and the patient's goals and values (e.g., "You mentioned that exercising more is important to you. What do you think about how this relates to your smoking behavior?") (Bischof, Bischof, & Rumpf, 2021; Mifsud, Galea, Garside, Stephenson, & Astin, 2020). The key features of MI can be summarized as shown in Table 1 (Frey et al., 2021; Miller & Rollnick, 2013).

Table 1. Key features of motivational interviewing

Feature	Description
Client-centeredness	Priority is given to the client's own problems and needs; the counselor's needs are secondary.
Journey of change	The client determines their own journey of change; the counselor does not make suggestions unless the client wants to take steps toward change.
Expertise and guidance	The counselor is the expert in the process and guides the client, who takes an active role in the process.
Unconditional acceptance and accompaniment	The counselor unconditionally accepts the client and supports them in bringing their desire for change to the surface.
Autonomy and responsibility	The client's autonomy over their behaviors and outcomes is respected.
Readiness for change	Readiness for change is a product of the interpersonal relationship; denial and resistance are associated with the counselor's attitudes, not the client's.
Resolving ambivalence	The client is responsible for resolving ambivalence regarding their behavior; the counselor provides opportunities for them to generate their own solutions.
Collaborative process	The counselor does not attempt to persuade the client or make suggestions.
Internal motivation	The counselor guides the client in discovering their own internal motivation; they do not attempt to create motivation for them.

Core Skills in Motivational Interviewing

MI supports the establishment of a therapeutic alliance between the clinician and the patient, involving micro-counseling skills known by the acronym OARS. OARS skills include: Open-ended questions, Acknowledgment, Reflection, Summarizing, and Information exchange. These are used to elicit the client's internal motivation and increase their participation in the change process (Table 2) (Gettings & Lefkowitz, 2024; Hah et al., 2020).

Table 2. Core skills in motivational interviewing

Skill	Definition and function
Asking open-ended questions	Encourages the client to think and explain the topic in more detail.
Affirmation	Emphasizes the client's strengths and reinforces their sense of self-efficacy.
Reflective listening	Expresses empathy by carefully listening to what the client says and then repeating, rephrasing, or deeply interpreting its meaning.
Summarizing	Ensures mutual understanding of shared information and reinforces the important points emphasized by the client.
Paying attention to the language of change	Encourages recognizing the client's statements that support the status quo (sustain talk) and those that favor change (change talk), and converting sustain talk into change talk.
Information exchange	It acknowledges the expertise of both the counselor and the client; information sharing is a two-way process that requires sensitivity to the client's words.

Key Processes of Motivational Interviewing

The key processes in MI describe the "flow" of the interview; if necessary, it is possible to move back and forth between processes:

Engaging: This is the first stage of the motivational interview and forms its foundation. The aim is to carefully listen to the person's experience and perspective and reflect it accurately; to acknowledge their strengths and support their autonomy in order to establish a productive working relationship. "Engaging," which is part of this process, is similar to communication principles widely accepted in healthcare. These principles emphasize the fundamental importance of empathic communication in promoting harmony and trust in the relationship (Bhat et al., 2020; Cole, Sannidhi, Jadotte, & Rozanski, 2023).

Focusing: In this process, a common goal is established by leveraging the expertise of both the client and the practitioner. This gives the practitioner permission to conduct a directive conversation about change. Similar to setting an "agenda" in medical practice, the "focusing" process involves negotiating an agreement on an area for exploration and discussion with patients (Bischof et al., 2021; Cole et al., 2023).

Evoking: In this process, the practitioner helps the client find their own "reasons" for change; they work to bring out the person's own ideas and motivations. Ambivalence is considered normal, explored without judgment, and thus resolved. This process requires skillful attention to the person's conversations about change and aims to uncover and strengthen patients' internal (not external) motivations for change (Cole et al., 2023).

Planning. This process focuses on discovering "how" the change will occur. The practitioner supports the individual in solidifying their commitment to change and developing a plan based on their own understanding and expertise. The planning process is not always necessary; however, when it is, the client's timing and readiness are crucial (Bhat et al., 2020; Cole et al., 2023).

The Use of Motivational Interviewing in Patient Care During the Surgical Process

MI is a practical approach to supporting behavioral change in clinical studies (Mifsud et al., 2020; Zhang & Yang, 2025). Reviewing the literature, it is seen that MI is used in the care of patients in various surgical fields such as plastic surgery, organ transplantation, orthopedics, and cardiovascular surgery (CVS) (Dobbels et al., 2017; Medina-Garzon, 2019; Olaiya et al., 2023; Palacio et al., 2014). These studies demonstrate that MI is effective in increasing patients' self-efficacy, enhancing treatment compliance, improving quality of life, and promoting risk-reducing health behaviors during both the pre-and postoperative periods. Below are examples of how MI is used with patients during the surgical process and these studies are summarized in **Table 3**.

Lung Surgery

A randomized study examined the effects of MI to increase self-efficacy in patients with non-small cell lung cancer after surgery. The findings showed that, compared to standard care, MI was more effective in cancer patients in terms of regulating emotions, increasing self-efficacy, improving quality of life, developing coping skills, strengthening social support, and enhancing functional capacity (Huang et al., 2018). Similarly, studies on developing self-care management in the postoperative period for patients who underwent thoracolumbar spine surgery have shown that MI increases patients' confidence in managing their own care (Scheffel, Amidei, & Fitzgerald, 2019).

Organ transplantation: The effect of interventions involving MI administered by master 's-level nurses on postoperative treatment adherence in adult heart, liver, and lung transplant recipients was examined in a randomized controlled trial. Findings showed that MI increased treatment adherence (Dobbels et al., 2017). Similarly, a review highlighted that MI strengthened adherence to immunosuppressive therapy after transplantation, supported participation in healthy lifestyle behaviors such as fluid intake and regular exercise, and facilitated the management of barriers, including anxiety and depression, in adolescents returning to school (Gettings & Lefkowitz, 2024).

Gastrointestinal surgery: A randomized controlled trial examining the effect of MI on improving postoperative nutritional goals within the ERAS (Enhanced Recovery After Surgery) protocol in elective bowel surgery showed that MI increased adherence to the nutritional goals set by the ERAS protocol. Similarly, another study investigated the effect of MI on the mobilization process after elective colorectal surgery, according to the ERAS, and found that MI was effective in supporting mobilization. Furthermore, preliminary findings from a pilot study evaluating the effect of MI on the readiness for change, self-efficacy, and adherence to dietary guidelines in bariatric surgery patients revealed that MI is an acceptable and feasible intervention with the potential to increase confidence in change and improve eating behaviors in bariatric patients.

Orthopedic surgery: In a prospective, evaluator-blinded, randomized controlled pilot study evaluating the effectiveness of MI and guided opioid reduction support in patients undergoing total joint arthroplasty, MI was found to promote opioid discontinuation without prolonging postoperative pain resolution or recovery time, thereby reducing total postoperative opioid use duration (Hah et al., 2020).

Neurosurgery: A study examining whether the application of short-term MI-based health behavior change counseling improves health outcomes after degenerative lumbar spinal stenosis surgery found that the application may improve outcomes after spinal surgery by increasing rehabilitation participation. (Similarly, another study evaluating the effectiveness of MI-based health behavior change counseling compared to routine care in improving health outcomes after lumbar spine surgery found that the intervention improved health outcomes during the first 12 months after surgery (Skolasky, Maggard, Wegener, & Riley, 2018).

Cardiovascular surgery: In a study evaluating the long-term effects of a multi-component intervention (psychoeducation, motivational interviewing, and text messaging) on medication adherence, quality of life, and mortality in elderly patients undergoing coronary artery bypass graft (CABG) surgery, the intervention was found to increase medication adherence, with this improvement lasting for 18 months. Furthermore,

Table 3. Studies using motivational interviewing in the perioperative period

Author (Year)	Type of Surgery	Methodology	Sample size (n)	Intervention	Key findings
Fei-Fei Huang; Qing Yang; Juan Zhang; Xuan Ye Han; Jing-Ping Zhang; Man Ye (2018)	VATS and thoracotomy procedure (distribution reported in both groups)	Randomized controlled trial, 2-phase study: I) Intervention development/modeling (health professional interviews + theoretical framework) II) 2-arm exploratory randomized controlled pilot trial	Initially, 30 patients were planned; 2 patients who did not undergo surgery were withdrawn; the study was completed with a total of 23 patients.		MI -based self-efficacy enhancement intervention (3 months/6 sessions: 2 face-to-face+4 telephone) was superior to routine care in reducing anxiety/depression and increasing self-efficacy, quality of life, social support, confrontational coping, and functional capacity; however, there were generally no significant differences between groups in subjective well-being, posttraumatic growth, body mass index, and spirometric pulmonary function measurements.
Kimberly Scheffel; Christina Amidei; Kathleen A. Fitzgerald (2019)	Postoperative thoracolumbar spine surgery (combined procedures; most commonly decompression laminectomy and spinal fusion)	Quasi-experimental, single group, pretest–posttest (no control group)	n=15 adult	2 sessions: 1) Face-to-face motivational interview (2nd week post-op clinic visit;) 2) Telephone follow-up motivational interview (4th week post-op); final measurements at the 6th week clinic visit	Self-care/symptom management confidence increased significantly: pretest mean 6.73 to posttest 8.73 (p=.002). Disability level decreased significantly: 29.33 to 20.13 (p=.027). The authors noted that the clinical significance cut-off point was exceeded in all items from a clinical perspective.
Fabienne Dobbels; Leentje De Bleser; Lut Berben; Paulus Kristanto; Lieven Dupont; Frederik Nevens; Johan Vanhaecke; Sabina De Geest (2017)	Solid organ transplantation: Heart, lung, and liver transplantation (≥1 year post-transplant)	Randomised controlled trial, parallel groups, 1:1 randomisation; intention-to-treat analysis; 3-month run-in+6-month intervention+6-month follow-up (total 15 months of electronic monitoring); additionally, 5-year clinical incident-free survival analysis.	Number of patients obtained from the screening results: 247; randomised: 205	-6 months / 3 sessions; multi-component, person-tailored behavioural intervention based on MI, administered during face-to-face clinical visits; -Electronic medication adherence feedback status assessed.	-Medication adherence (correct dosage): At the end of the intervention, greater adherence was observed in the experimental group, with a significant difference between groups (p<0.001) -Timing compliance: Greater compliance was observed in the experimental group (p<0.0001) -The effect was sustained at the 6-month follow-up -The 5-year clinical event-free survival rate was 82.5% in the experimental group and 72.5% in the control group; the difference was not statistically significant (p=0.18).
Julie M. Gettings; Debra S. Lefkowitz (2024)	Adolescent solid organ transplantation (general framework: including heart/liver/kidney/lung; pre-, peri-and post-operative stages of the transplant journey)	Mini review: The principles and skills of MI are explained; the literature on its applicability in adolescent transplant care (adult transplant and similar paediatric chronic disease studies) is reviewed; clinical scenario examples are presented.	There is no sample.	A standard 'intervention dose' is not defined. MI is positioned as a communication style integrated into clinical interviews by multidisciplinary team members; its use may extend to the pre-transplant, perioperative/post-operative, and long-term post-transplant periods.	-The high conceptual suitability of MI in adolescent transplantation is emphasised; -Examples are provided of how the core skills of MI can be used to improve medication adherence and other health behaviours, particularly by supporting adolescent autonomy. -System-level factors (inequalities, resources) and the clinician's bias can disrupt MI interactions; therefore, self-awareness/cultural humility is critical.
Julian Müller; Rico Wiesenberger; Mario Kaufmann; Christel Weiß; David Ghezel-Ahmadi; Julia Hardt; Christoph Reißfelder; Florian Herrle (2024)	Elective bowel/colorectal surgery (under the ERAS® colorectal protocol; colon/rectum/stoma procedures, etc.)	-Single-centre, two-arm, blinded parallel pilot randomised controlled trial; block randomisation (block=4); -Follow-up: preoperative+PODs 0-3; -Primary outcomes: number of protein shakes, protein calories, total calorie intake.	n=60 (MI=30, control=30). Due to 2 deaths in the control group during the post-operative days, the final analysis reported control=29.	5 sessions / perioperative period: -Preoperative (during premedication) +2) (POD 0+3) (day 1+4) (day 2+5) day 3; post-operative consultations within the ward between 17:30-20:00, face-to-face; motivational consultation, conducted according to the standard protocol adapted to ERAS® nutritional goals.	The motivational interview group had higher protein shake intake on PODs 0-3 (excluding day 3); more total shakes (median 5.5 vs 2.0; p=0.004) and consequently higher protein/calorie intake (1650 vs 600 kcal; p=0.004; 110 vs 40 g protein; p=0.005). Total daily calorie intake (shake + meals) was significantly higher only on day 2 (1772.3 vs 1358.9 kcal; p=0.03). No significant differences were found between groups in complications and LOS.

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Table 3. Studies using motivational interviewing in the perioperative period (The table continues)

Author (Year)	Type of Surgery	Methodology	Sample size (n)	Intervention	Key findings
Rico Wiesenberger; Julian Müller; Mario Kaufmann; Christel Weiß; David Ghezel-Ahmadi; Julia Hardt; Christoph Reissfelder; Florian Herrle (2024)	Elective colorectal surgery /elective bowel resections (ERAS; including minimally invasive and open approaches; cases involving stoma creation are also included)	-Single-centre, two-arm, patient-blinded pilot randomised controlled trial; 1:1 block randomisation (block=4); -MI techniques in the experimental group, same frequency of interviews without MI in the control group (primarily closed-ended questions); mobilisation measured at POD1 (360 minutes post-operatively out of bed)-POD3 (objective sensor+self-report.	The number of patients identified was 97; 60 were randomised (experimental group=30, control group=30).	6 sessions: -Preoperative 1 face-to-face (a few days before surgery, outpatient clinic) +POD0-POD3 daily 1 face-to-face (in the ward between 18:00-20:30 in the evening)+POD28-32 telephone consultation; Approximate durations are shown in the table: preop ~20 min, POD0 ~15 min, POD1-3 ~10 min; the total process extends from before surgery to the 4th week.	-Primary mobilisation outcome (self-reported 'out-of-bed time') was cumulatively higher in the experimental group from POD1 to POD3: 685 min vs 420 min (p=0.022). The experimental group more frequently met the ERAS® target of ≥360 min/day during POD1-3 (360 min out of bed 1-3 days post-surgery) (p=0.013). -Although the experimental group had higher objective measurements (time on feet and number of steps), there was no statistical significance. -Hospital stay and complications were similar.
Lauren A. David; Sanjeev Sockalingam; Susan Wnuk; Stephanie E. Cassin (2016)	Postoperative bariatric surgery (most of the sample being Roux-en-Y gastric bypass)	Pilot randomise controlled trial, wait-list controlled; randomisation: matching based on time spent in surgery + web-based random number generation; Measurements: baseline, immediately post-session, 4/8/12-week follow-up.	66 expressed interest; randomised n=51: experimental group=23, Control group=28; completed n=44.	-Single session experimental group; mean 107.9 min; face-to-face (in a university-based research laboratory). -Control arm: standard bariatric care during a 12-week waiting period, followed by MI.	-Immediately after the motivational interview: increase in readiness, confidence and self-efficacy; at the 12-week follow-up, the motivational interview group showed more pronounced improvement in confidence for change, VAS diet compliance and binge eating scores compared to the control group (Group×Time interaction was significant). However, improvements in some compliance measures (adherence checklist) were inconsistent; the groups did not differ significantly from each other in most outcomes at week 12 (consistent with the pilot/low-power design).
Jennifer M. Hah; Jodie A. Trafton; Balasubramanian Narasimhan; Partha Krishnamurthy; Heather Hilmoe; Yasamin Sharifzadeh; James I. Huddleston; Derek Amanatullah; William J. Maloney; Stuart Goodman; Ian Carroll; Sean C. Mackey 2020	Orthopaedic surgery: total joint arthroplasty-TKA and THA	Prospective, assessor-blind, randomised controlled pilot study; 1:1 randomisation (block=5), stratified by type of operation (TKA/THA);	Screening: 209; randomised n=104 (MI-Opioid Taper=49, usual care=55); Single academic centre (Stanford); randomisation performed in patients still using prescribed opioids 14 days after surgery (high-risk).	Telephone-based MI+guided opioid reduction support: weekly calls (from the 2nd to the 7th week post-op) followed by monthly calls (up to 1 year) until the patient stops taking opioids; average number of sessions implemented in practice was 2.6 (range 1-6 calls).	Time-dependent primary outcome: 'return to baseline (preoperative) opioid dose' was faster in the MI group: HR 1.62 (95% CI 1.06-2.46; p=0.03). Secondary: also faster for 'complete opioid withdrawal': HR 1.57 (95% CI 1.01–2.44; p=0.05). No significant difference in pain resolution and patient-reported full recovery times. No trial-related adverse events reported.
Richard L. Skolasky; Anica M. Maggard; David Li; Lee H. Riley III; Stephen T. Wegener (2015)	Degenerative lumbar spinal stenosis surgery: lumbar decompression; fusion surgery added if spondylolisthesis is present.	Prospective clinical trial, lagged-control (time-dependent sequential assignment; no randomisation): the first 60 patients were assigned to the control group, the next 65 patients to the experimental group; outcome reviewers were blinded to group assignment.	Meeting the criteria: 139, rejected: 14; final n=122 (control=59, experimental=63).	Telephone-based MI group: 1 session x 60 min (pre-op)+2 booster sessions x 30 min (approximately 3 months and 6 months post-op) Control: standard education +2 telephone calls x 30 min at the same times (without MI content).	-The experimental group, compared to the control group: had higher rehabilitation participation (therapist assessment: 23.57±2.71 vs 21.20±4.56; p<.001) and a higher physical therapy participation rate (.82±.16 vs. 67±.21; p<.001) and higher home exercise participation (.75±.22 vs .65±.23; p=.019). -Functional outcomes: lower disability (better) and higher physical health quality of life scale; effects were significant at 3 months and 6 months. Mediation analysis indicated that approximately half of the effect on functional improvement at 3 months and one-third at 6 months was mediated by rehabilitation participation.

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Table 3. Studies using motivational interviewing in the perioperative period (The table continues)

Author (Year)	Type of Surgery	Methodology	Sample size (n)	Intervention	Key findings
Richard L. Skolasky; Anica M. Maggard; Stephen T. Wegener; Lee H. Riley III (2018).	Lumbar spinal stenosis surgery: lumbar decompression; including arthrodesis (fusion) if accompanied by spondylolisthesis/ scoliosis.	Prospective lagged controlled study (non-randomised): two-stage allocation based on registration date; stage 1: routine care; stage 2: healthy behaviour change counselling. 3-year follow-up; intention-to-treat analysis, multiple imputation for missing data; longitudinal mixed-effects models for time-series comparisons; additionally, structural equation modelling for the mediating role of rehabilitation participation.	Evaluated 185; suitable 139; approved 125; analysis: n=122 (routine maintenance=59, experimental group=63).	3 telephone calls: 1 preoperative + 2 postoperative 'booster' (in the text, the preoperative call uses MI strategies; the booster timing is placed in the postoperative rehabilitation period). The mode of delivery is telephone; duration information is not reported in detail on a call-by-call basis in this article (the intervention is defined as 'brief/ telephone-based').	-In the first 12 months, the counselling group performed better than routine care: greater reduction in pain intensity (p=0.008), greater reduction in disability (p=0.028) and greater improvement in physical health (p=0.025). At 24-36 months, the early differences between groups weakened/ attenuated. -In the mediation analysis, part of the early improvements was explained by increased rehabilitation participation and attendance at physiotherapy sessions as assessed by the physiotherapist; home exercise participation was identified as a weaker mediator.
Chung-Ying Lin; Mehdi Yaseri; Amir H. Pakpour; Dan Malm; Anders Broström; Bengt Fridlund; Andrea Burri; Thomas L. Webb (2017)	CABG surgery (elective; excluding emergency CABG).	Multicentre, cluster-randomised (at centre level), two-arm randomised controlled trial; investigators/ outcome assessors and statisticians blinded; ITT; measurements: baseline and at 6/12/18 months; survival at 18 months.	12 centres (Iran); 24 patients per centre; total n=288 (experimental group=144; control=144). Control: ~30 min standard briefing prior to discharge.	Multi-component programme starting in the first week after discharge: (1) Psychoeducation: 3 weeks, each session 60 minutes, face-to-face group sessions in hospital, with at least 1 family member. (2) MI : 5 weeks, each session ~50 minutes, face-to-face individual sessions in hospital (by psychologists). (3) SMS: 4 messages per month (reminder content), sent on a monthly basis.	The experimental group showed a significant improvement in medication adherence (MARS, pharmacy refill rate and lipid profile indicators) at 6 months compared to the control group, and the effect persisted until 18 months (p<0.01). The difference in quality of life (was particularly significant in favour of the experimental group at month 18 (p=0.02). Mortality risk was lower in the trial group: HR ≈0.38 (p≈0.04). Furthermore, it has been reported that compliance is mediated by social-cognitive processes such as intention, planning, self-monitoring, perceived control, and automaticity.
Ana M. Palacio; Claudia Uribe; Leslie Hazel-Fernandez; Hua Li; Leonardo J. Tamariz; Sylvia D. Garay; Olveen Carrasquillo (2015)	Coronary stent placement- Compliance with post-stent antiplatelet therapy is targeted.	Parallel-arm randomised controlled trial; stent patients identified through a health insurance database in 22 US states; block randomisation (block=6), stratified by race/ ethnicity; Measurements: baseline and 12 months (claims+questionnaire).	n=452 minority (Hispanic 44%, Black 56%); randomisation: Telephone-based MI=227, DVD group=225; pharmacy claims data available in primary analysis: MI group=213, DVD group=209.	Telephone-based MI: 4 sessions, once every 3 months (over 12 months); delivered via telephone call. Comparison: one-off educational DVD (role-modelling video) sent by post. (Duration/minute information per session not explicitly reported in the article).	-Primary (claims-based medication adherence rate): 0.77 in the telephone-based MI group, 0.70 in the DVD group (p=0.01). -Appropriate adherence (medication adherence rate ≥0.80): 64% in the MI group, 50% in the DVD group (p<0.01). -Self-report: Higher in the MI group at 12 months (e.g., ~3.81 vs ~3.52; p<0.01). • 'Forgetfulness' and the rate of not completing 12 months of treatment were lower in the MI group.

VATS: Video-assisted thoracoscopic surgery, MI: Motivastional interviewing, TKA: Total knee arthroplasty, THA: Total hip arthroplasty, ERAS: Enhanced recovery after surgery, POD: Postoperative day, LOS: Length of stay, VAS: Visual analog scale, QoL: Quality of life, HR: Hazard ratio, CI: Confidence Interval, DVD: Digital versatile disc, CABG: Coronary artery bypass graft, USA: United states of America, ITT: Intention-to-treat. The intervention content is presented in the table solely in terms of session number, duration and mode of delivery for standardisation purposes. "Usual care" refers to the centre's routine perioperative care and may vary between studies

improvements in quality of life and survival rates were also observed due to increased medication adherence (C.-Y. Lin et al., 2016). Similarly, in a randomized controlled trial evaluating the effectiveness of a phone-based MI application in assessing adherence to antiplatelet medications after coronary stenting, it was reported that MI increased medication adherence in patients and is a promising and cost-effective method for modifying risk behaviors in individuals with high cardiovascular risk (Palacio et al., 2014).

In recent years, the use of MI in surgical populations has increased. Increased life expectancy, complex surgical procedures, and multiple disease burdens have heightened the need to support patients' adaptation to postoperative care and lifestyle changes. Developing risk-reducing health behaviors, such as maintaining a healthy diet and engaging in regular physical activity (van Erck et al., 2023), and reducing behaviors that increase surgical risk, including smoking, excessive alcohol consumption, or substance abuse, are critically important (Kamarajah & Yeung, 2025; Katayama et al., 2024). In this context, MI is frequently used to increase patients' self-efficacy, strengthen treatment compliance, improve quality of life, and promote risk-reducing health behaviors before and after surgery (Gettings & Lefkowitz, 2024; Huang et al., 2018; İşleyen et al., 2025). MI techniques are increasingly beneficial in helping patients initiate or develop common lifestyle goals, such as exercise, resistance training, nutrition, weight management, sleep hygiene,

smoking cessation, reducing alcohol consumption, and adherence to medication prescriptions (Cole et al., 2023). The literature shows that the application of MI is becoming increasingly common in different surgical fields such as lung, spine, bariatric, and cardiac surgery, and that the active role of nurses in this process positively affects patient outcomes (David et al., 2016; Medina-Garzon, 2019; Skolasky et al., 2015). This increase highlights the potential for MI to become an integral part of surgical care.

CONCLUSION

Studies have shown that health-related behavioral risk factors are highly prevalent in surgical populations and that this increases the risk of postoperative complications. MI-based approaches enhance patients' self-efficacy, treatment compliance, quality of life, and functional capacity, while supporting lifestyle goals such as nutrition, exercise, weight management, and reducing tobacco and alcohol use. MI, especially when administered by surgical nurses before and after surgery, enhances patients' confidence in managing their own care, increases participation in the rehabilitation process, and improves medication adherence. By establishing trust-based therapeutic relationships with patients and integrating MI techniques into routine care processes, nurses increase cost-effectiveness and significantly contribute to patients' development of risk-reducing health behaviors.

In this context, the role of surgical nurses should be expanded beyond merely providing postoperative care to include reducing patients' behavioral health risks and supporting lifestyle changes. Nurses are encouraged to receive training in MI and incorporate these approaches into clinical practice. Furthermore, developing structured MI programs for the pre- and postoperative periods and systematically evaluating their effectiveness in different surgical patients will contribute to improving patient outcomes and the sustainability of healthcare systems.

ETHICAL DECLARATIONS

Peer Review Process

This review was externally peer-reviewed.

Conflict of Interest

The authors declare no conflicts of interest.

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