

### Knowledge management and creativity among employees at educational and therapeutic centers affiliated to Iranshahr University of Medical Sciences

إدارة المعرفة والإبداع لدى الموظفين في المراكز التعليمية والعلاجية التابعة لجامعة إيرانشهر للعلوم الطبية



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**Background:** In healthcare and educational environments, effective Knowledge management (KM) is essential for fostering creativity and innovation, ultimately improving service delivery, educational outcomes, and patient care. This study examined the relationship between KM, creativity, and innovation among employees at educational and therapeutic centers affiliated to Iranshahr University of Medical Sciences.

**Method:** A descriptive-analytical cross-sectional study was conducted among 120 employees using a census method. Data were collected using two validated instruments: Karamitri et al.'s Knowledge Management Questionnaire (2020), and Sajjadi et al.'s Organizational Creativity Questionnaire (2025). Statistical analyses comprised descriptive statistics, Pearson correlation, independent t-tests, and one-way ANOVA.

**Results:** Employees reported moderate levels of KM (mean = 2.73 ± 0.57), creativity (mean = 2.99 ± 0.80), and innovation (mean = 3.20 ± 0.62). Knowledge sharing (2.97 ± 0.69) and knowledge identification (2.95 ± 0.72) were the highest-scoring KM dimensions, whereas knowledge utilization scored the lowest (2.36 ± 0.95). KM demonstrated a strong positive correlation with creativity ( $r = 0.661, p < 0.001$ ), explaining 43.7% of its variance, and a moderate correlation with innovation ( $r = 0.325, p < 0.001$ ). Creativity showed a weaker but significant association with innovation ( $r = 0.201, p = 0.02$ ). Subgroup analyses indicated higher KM and creativity scores among male employees and those with fewer than five years of experience.

**Conclusion:** Structured KM practices, especially knowledge sharing and acquisition, play a central role in enhancing employee creativity.

**Keywords:** Knowledge management, Creativity, Healthcare education, Innovation, Iranshahr University of Medical Sciences

**الخلفية:** في البيئات الصحية والتعليمية، تُعد إدارة المعرفة الفعالة ضرورية لتعزيز الإبداع والابتكار، مما يؤدي في النهاية إلى تحسين تقديم الخدمات، والنتائج التعليمية، ورعاية المرضى. بحثت هذه الدراسة في العلاقة بين إدارة المعرفة والإبداع والابتكار لدى الموظفين في المراكز التعليمية والعلاجية التابعة لجامعة إيرانشهر للعلوم الطبية.

**الطريقة:** أُجريت دراسة وصفية تحليلية مستعرضة شملت 120 موظفاً باستخدام أسلوب الحصر الشامل. جُمعت البيانات باستخدام أداتين تم التحقق من صدقهما استبيان إدارة المعرفة لـ "كراميتري وآخرون" (2020)، واستبيان الإبداع التنظيمي لـ "سجادي وآخرون" (2025). شملت التحليلات الإحصائية الإحصاء الوصفي، وارتباط بيرسون، واختبار t للعينات المستقلة، وتحليل التباين أحادي الاتجاه (ANOVA).

**النتائج:** أظهر الموظفون مستويات متوسطة من إدارة المعرفة (المتوسط = 2.73 ± 0.57)، والإبداع (المتوسط = 2.99 ± 0.80)، والابتكار (المتوسط = 3.20 ± 0.62). كانت أبعاد مشاركة المعرفة (2.97 ± 0.69) وتحديد المعرفة (2.95 ± 0.72) هي الأعلى تسجيلاً بين أبعاد إدارة المعرفة، بينما سجل استخدام المعرفة أدنى مستوى (2.36 ± 0.95). أظهرت إدارة المعرفة ارتباطاً إيجابياً قوياً بالإبداع ( $r = 0.661, p < 0.001$ )، حيث فسرت 43.7% من التباين فيه، وارتباطاً متوسطاً بالابتكار ( $r = 0.325, p < 0.001$ ). أظهر الإبداع ارتباطاً أضعف ولكنه معنوي بالابتكار ( $r = 0.201, p = 0.02$ ). أشارت تحليلات المجموعات الفرعية إلى درجات أعلى في إدارة المعرفة والإبداع بين الموظفين الذكور وأولئك الذين لديهم خبرة أقل من خمس سنوات.

**الخلاصة:** تلعب ممارسات إدارة المعرفة المنظمة، وخاصة مشاركة المعرفة واكتسابها، دوراً محورياً في تعزيز إبداع الموظفين.

**الكلمات المفتاحية:** إدارة المعرفة؛ الإبداع؛ التعليم الصحي؛ الابتكار؛ جامعة إيرانشهر للعلوم الطبية

### مدیریت دانش و خلاقیت در بین کارکنان مراکز آموزشی و درمانی وابسته به دانشگاه علوم پزشکی ایرانشهر

**زمینه و هدف:** در محیط‌های آموزشی و درمانی، استقرار مؤثر مدیریت دانش برای پرورش خلاقیت و نوآوری ضروری بوده و به بهبود ارائه خدماته پیامدهای آموزشی و مراقبت از بیمار منجر می‌شود. این مطالعه با هدف بررسی رابطه بین مدیریت دانش، خلاقیت و نوآوری در میان کارکنان مراکز آموزشی و درمانی تحت پوشش دانشگاه علوم پزشکی ایرانشهر انجام شد.

**روش:** این پژوهش یک مطالعه مقطعی توصیفی-تحلیلی بود که با مشارکت 120 نفر از کارکنان به روش سرشماری انجام شد. داده‌ها با استفاده از دو ابزار معتبر شامل پرسشنامه مدیریت دانش و پرسشنامه خلاقیت سازمانی سجادی و همکاران (2025) جمع‌آوری شد. تجزیه و تحلیل داده‌ها با استفاده از آمار توصیفی، ضریب همبستگی پیرسون، آزمون تی مستقل و آنالیز واریانس یک‌طرفه انجام گرفت.

**یافته‌ها:** سطح مدیریت دانش (میانگین 2.73 ± 0.57)، خلاقیت (میانگین 2.99 ± 0.80) و نوآوری (میانگین 3.20 ± 0.62) در کارکنان در حد متوسط بود. به‌اشتراک‌گذاری دانش (2.97 ± 0.69) و شناسایی دانش (2.95 ± 0.72) بالاترین نمرات و کاربرد دانش (2.36 ± 0.95) پایین‌ترین نمره را به خود اختصاص دادند. مدیریت دانش همبستگی مثبت قوی با خلاقیت ( $r = 0.661, p < 0.001$ ) و 43.7 درصد از واریانس آن را تبیین می‌کرد. مدیریت دانش همبستگی مثبت متوسطی با نوآوری ( $r = 0.325, p < 0.001$ ) داشت. رابطه بین خلاقیت و نوآوری مثبت اما ضعیف بود ( $r = 0.201, p = 0.02$ ). تحلیل‌های زیرگروهی حاکی از نمرات بالاتر مدیریت دانش و خلاقیت در کارکنان مرد و کارکنان با سابقه کاری کمتر از پنج سال بود.

**نتیجه‌گیری:** استقرار فرآیندهای ساختار یافته مدیریت دانش، به‌ویژه در حوزه‌های به‌اشتراک‌گذاری و کسب دانش، نقشی محوری در ارتقای خلاقیت کارکنان ایفا می‌کند.

**واژه‌های کلیدی:** مدیریت دانش، خلاقیت، نوآوری، آموزش علوم پزشکی، دانشگاه علوم پزشکی ایرانشهر

### ایرانشهر یونیورسیتی آف میڈیکل سائنسز سے وابستہ تعلیمی اور علاج معالجے کے مراکز کے ملازمین میں نالج مینجمنٹ (علم کا انتظام) اور تخلیقیت

**پس منظر:** صحت اور تعلیمی ماحول میں، مؤثر نالج مینجمنٹ (KM) تخلیقیت اور جدت کو فروغ دینے کے لیے ضروری ہے، جو بالآخر خدمات کی فراہمی، تعلیمی نتائج اور مریضوں کی دیکھ بھال کو بہتر بناتا ہے۔ اس مطالعے میں ایرانشهر یونیورسٹی آف میڈیکل سائنسز سے وابستہ تعلیمی اور علاج معالجے کے مراکز کے ملازمین میں نالج مینجمنٹ، تخلیقیت اور جدت کے درمیان تعلق کا جائزہ لیا گیا ہے۔

**طریقہ:** 120 ملازمین کے درمیان 'مردم شماری' (census) کے طریقے کا استعمال کرتے ہوئے ایک وضاحتی-تجزیاتی عرضی مطالعہ (cross-sectional study) کیا گیا۔ ڈیٹا دو مستند آلات کا استعمال کرتے ہوئے اکٹھا کیا گیا: 'کرامتری اور دیگر' کا نالج مینجمنٹ سوالنامہ (2020) اور 'سجادی اور دیگر' کا تنظیمی تخلیقیت کا سوالنامہ (2025)۔ شماریاتی تجزیے میں وضاحتی شماریات، پیئرسن کوریلیشن (Pearson correlation)، انڈیپنڈنٹ ٹی ٹیسٹ (independent t-tests)، اور ون وے انووا (one-way ANOVA) شامل تھے۔

**نتیجے:** ملازمین میں نالج مینجمنٹ (اوسط = 2.73 ± 0.57)، تخلیقیت (اوسط = 2.99 ± 0.80)، اور جدت (اوسط = 3.20 ± 0.62) کی سطح معتدل پائی گئی۔ 'علم کا اشتراک' (2.97 ± 0.69) اور 'علم کی شناخت' (2.95 ± 0.72) نالج مینجمنٹ کے سب سے زیادہ اسکور والے پہلو تھے، جبکہ 'علم کا استعمال' سب سے کم رہا (2.36 ± 0.95)۔ نالج مینجمنٹ اور تخلیقیت کے درمیان ایک مضبوط مثبت تعلق ( $r = 0.661, p < 0.001$ ) دیکھا گیا، جو اس کی تبدیلیوں (variance) کا 43.7 فیصد کی وضاحت کرتا ہے، جبکہ جدت کے ساتھ ایک معتدل تعلق ( $r = 0.325, p < 0.001$ ) پایا گیا۔ تخلیقیت کا جدت کے ساتھ تعلق کمزور لیکن اہم تھا ( $r = 0.201, p = 0.02$ )۔ ذیلی گروپ کے تجزیوں سے معلوم ہوا کہ مرد ملازمین اور پانچ سال سے کم تجربہ رکھنے والوں میں نالج مینجمنٹ اور تخلیقیت کے اسکور زیادہ تھے۔

**نتیجہ:** منظم نالج مینجمنٹ کے طریقے، خاص طور پر علم کا اشتراک اور حصول، ملازمین کی تخلیقیت کو بڑھانے میں کلیدی کردار ادا کرتے ہیں۔

**کلیدی الفاظ:** نالج مینجمنٹ (علم کا انتظام)؛ تخلیقیت؛ صحت کی تعلیم؛ جدت؛ ایرانشهر یونیورسٹی آف میڈیکل سائنسز۔

## INTRODUCTION

Knowledge management (KM) has emerged as a cornerstone of organizational success in the contemporary knowledge-driven era (1). Broadly defined, KM refers to the systematic processes through which organizations identify, create, share, store, and utilize knowledge to achieve strategic objectives (2). By capturing and applying collective expertise, KM mitigates knowledge loss, promotes organizational learning, and fosters continuous improvement (3). Organizations that effectively leverage KM are better positioned to respond to emerging challenges, adapt to evolving opportunities, and maintain a sustainable competitive advantage in increasingly complex environments (4).

Healthcare and educational institutions are particularly knowledge-intensive, where service quality, staff performance, and operational effectiveness are critically dependent on the ability to manage and apply knowledge (5). In these contexts, access to timely and relevant information directly influences clinical decision-making, educational outcomes, and patient safety (6). The rapid expansion of medical knowledge, technological advancements, and the need for interdisciplinary collaboration further underscore the importance of robust KM practices (7). In educational settings, KM supports faculty and staff in systematically organizing and disseminating expertise, designing evidence-based curricula, and cultivating a culture of continuous learning (8).

Creativity, defined as the capacity to generate novel and useful ideas, is widely recognized as one of the primary outcomes of effective KM (9). In healthcare and educational contexts, creativity enables innovative solutions to complex problems, strengthens decision-making processes, and enhances organizational performance (10). Creative problem-solving contributes to the development of improved clinical protocols, patient-care strategies, and educational methodologies (11). Systems that facilitate knowledge sharing, collaborative learning, and structured access to organizational expertise provide a fertile environment for nurturing both creativity and innovation among employees (12).

The theoretical link between KM and creativity has been examined across various organizational settings (13). KM enhances creativity by supporting knowledge exchange, experiential learning, and collaborative problem-solving (14). Both explicit knowledge (e.g., documented procedures and research evidence) and tacit knowledge (e.g., personal experience and professional insight) contribute to an environment conducive to innovation (15). Studies consistently demonstrate that organizations with well-established KM systems exhibit higher levels of creative output,

increased adaptability, and improved overall performance (16, 17). Embedding KM practices within organizational culture also encourages continuous learning, critical reflection, and cross-disciplinary collaboration all of which are essential for strengthening creativity (18).

In healthcare organizations, the application of KM to stimulate creativity has practical and strategic implications (19). Innovative thinking in hospitals and academic medical centers can lead to enhanced patient care, reduced clinical errors, optimized workflows, and the development of new educational tools or clinical interventions (20). Within medical universities and their affiliated educational centers, KM-driven creativity supports curriculum innovation, improves teaching methodologies, and promotes professional development among faculty and staff (21). Linking KM with creativity therefore enables institutions to advance knowledge dissemination while cultivating a culture of innovation that benefits both employees and the communities they serve (12, 22).

Despite the recognized importance of KM and creativity, empirical evidence on their interrelationship within Iranian medical education and therapeutic centers remains limited. Few studies have systematically examined how KM practices influence employees' creative capacity, especially within regional and resource-constrained universities such as those in southeast Iran where limited digital infrastructure, centralized decision-making, and staffing shortages may impede the effective implementation of KM (23, 24). Understanding these dynamics is essential for designing interventions that strengthen organizational learning, foster innovation, and improve both educational and clinical outcomes.

Core KM dimensions including knowledge creation, identification, acquisition, sharing, utilization, retention, and evaluation are hypothesized to stimulate creativity by improving employees' access to information and facilitating learning processes. Creativity is further expected to support innovation, although innovation is also shaped by broader organizational enablers such as leadership support, resources, and institutional culture. Recognizing the significance of these relationships, the present study investigated the association between KM and creativity among employees of educational and therapeutic centers affiliated to Iranshahr University of Medical Sciences. By analyzing key KM dimensions and their connection with employee creativity, the study aims to provide evidence-based insights to guide policy and managerial decision-making in similar regional healthcare and educational institutions.

## METHODS

### Study design and setting

This cross-sectional study was conducted at the

affiliated centers and included all permanent employees working in clinical (physicians, nurses, and allied health professionals), paraclinical (laboratory and diagnostic personnel), and administrative/support positions. Employees who had at least one year of continuous work experience were considered eligible, as this duration was assumed to provide sufficient familiarity with the organizational environment and knowledge-related practices under investigation. Staff members who were on temporary contracts, had less than one year of work experience, or were on extended leave during the data collection period were not included. Given that the total number of eligible employees across the centers was manageable, a census approach was adopted rather than sampling, and all individuals meeting the inclusion criteria were invited to participate in the study.

**Sample size calculation**

A pilot study of 30 employees estimated the anticipated correlation between KM and creativity at  $r = 0.3$ . Using an alpha level of 0.05 (95% confidence) and a power of 95%, the minimum required sample size for detecting this correlation was approximately 120 participants. To improve generalizability and allow for robust subgroup analyses, all eligible employees were invited to participate.

**Data collection instruments**

Data were collected using a demographic information form and two validated questionnaires.

- **Knowledge Management Questionnaire:** Adapted from Karamitri et al. (2020), this 21-item instrument measures eight KM dimensions: knowledge goal setting (2 items), knowledge identification (3 items), knowledge acquisition (2 items), knowledge development (3 items), knowledge sharing (4 items), knowledge utilization (2 items), knowledge retention (3 items), and knowledge evaluation (2 items). Items were scored on a 5-point Likert scale from “very low” (1) to “very high” (5), with raw scores normalized to a 0–100 scale. Internal consistency was strong (Cronbach’s  $\alpha = 0.89$ ) (25).

- **Organizational Creativity Questionnaire:** The 37-item questionnaire developed by Sajjadi et al. (2025) measures aspects of employee creativity, including problem-solving, idea generation, and organizational innovation (26). Responses were coded on a 3-point Bogardus scale (“disagree” = 1, “uncertain” = 2, “agree” = 3) and normalized to a 0–100 scale. Its internal consistency in this study was acceptable (Cronbach’s  $\alpha = 0.69$ ). For clarity, the “innovation” score reported represents a sub-dimension of creativity focusing on idea implementation within the organization.

**Validity and reliability**

Both questionnaires underwent a rigorous cross-cultural adaptation process for use in Persian and the Iranian context, including forward translation

by two bilingual experts, back-translation by two independent bilingual translators, expert panel review for clarity and cultural relevance, and cognitive debriefing with a subset of employees to ensure comprehensibility. Content and face validities were confirmed by ten experts in healthcare management, medical education, and organizational behavior. Following approval from the institutional ethics committee, data were collected in person, with voluntary participation and confidentiality emphasized. A research team member was present to clarify any questions and ensure completeness.

**Statistical analysis**

Statistical analyses were conducted using SPSS version 18.0. Descriptive statistics summarized participant characteristics and scores on KM and creativity dimensions, while inferential analyses included independent t-tests for two-group comparisons, one-way ANOVA for multiple-group comparisons, Pearson correlation coefficients to evaluate linear relationships between KM and creativity, and linear regression to examine the predictive relationship of KM on creativity. All continuous variables were checked for normality, and significance was set at  $p \leq 0.05$ .

**RESULTS**

**Participant characteristics**

A total of 120 employees from the educational and therapeutic centers affiliated to Iranshahr University of Medical Sciences participated in the study. The mean age of the participants was 34.5 years (SD = 7.8), with the largest age group being 30–39 years (33.3%). The majority of the sample was female (78.3%), while 21.7% were male. In terms of educational attainment, 50.8% of employees held a bachelor's degree, 32.5% had an associate’s degree, and 16.7% possessed a master's degree or higher. The distribution of work experience varied, with 32.5% having 0–4 years of experience and 25.8% having 5–9 years. The demographic details of the participants are summarized in Table 1.

Variable	Category	N (%)	Mean (SD)
Gender	Male	26 (21.7%)	
	Female	94 (78.3%)	
Age (years)	20–29	24 (20.0%)	34.5 (7.8)
	30–39	40 (33.3%)	35.2 (6.9)
	40–49	34 (28.3%)	44.0 (5.3)
	≥ 50	22 (18.4%)	52.1 (2.6)
Education	Associate	39 (32.5%)	
	Bachelor	61 (50.8%)	
	Master/PhD	20 (16.7%)	
Work experience	0–4	39 (32.5%)	
	5–9	31 (25.8%)	
	10–14	24 (20.0%)	
	15–19	15 (12.5%)	
	≥ 20	11 (9.2%)	

**Status of knowledge management (KM)**

The overall mean knowledge management (KM) score was  $2.73 \pm 0.57$  (on a 5-point scale), indicating a moderate level of KM among the staff. Among the eight KM dimensions, knowledge sharing ( $2.97 \pm 0.69$ ) and knowledge identification ( $2.95 \pm 0.72$ ) received the highest scores, while knowledge utilization ( $2.36 \pm 0.95$ ) had the lowest. The scores for all KM dimensions are presented in Table 2. Employees also demonstrated a moderate level of creativity, with a mean score of  $2.99 \pm 0.80$  (on a 3-point scale). Organizational innovation had a slightly higher mean score of  $3.20 \pm 0.62$ .

KM Dimension	Mean (SD)
Knowledge goals	2.91 (0.89)
Knowledge identification	2.95 (0.72)
Knowledge acquisition	2.57 (0.84)
Knowledge development	2.56 (0.67)
Knowledge sharing	2.97 (0.69)
Knowledge utilization	2.36 (0.95)
Knowledge retention	2.69 (0.79)
Knowledge creation	2.56 (0.96)
Total KM score	2.73 (0.57)

**Creativity and innovation scores**

The mean score for organizational creativity was  $2.99 \pm 0.80$ , indicating a moderate level. Organizational innovation had a slightly higher mean score of  $3.20 \pm 0.62$ . Subgroup analysis suggested variation in scores across occupational groups, with clinical staff showing slightly higher creativity and innovation scores than administrative staff.

**Relationship between KM and creativity**

Pearson correlation analysis demonstrated a strong positive correlation between total KM and creativity ( $r = 0.661$ ,  $p < 0.001$ ), with KM explaining approximately 43.7% of the variance in creativity ( $R^2 = 0.437$ ). Among KM dimensions, knowledge sharing ( $r = 0.72$ ), knowledge acquisition ( $r = 0.65$ ), and knowledge goal setting ( $r = 0.61$ ) were most strongly correlated with creativity (Table 3).

Variable	Mean	r	p-value	R <sup>2</sup>
Knowledge Management	2.73	0.661	< 0.001	43.7%
Organizational Creativity	2.99	-	-	-

**Relationship between KM and innovation**

KM showed a moderate positive correlation with organizational innovation ( $r = 0.325$ ,  $p < 0.001$ ), explaining 10.6% of variance ( $R^2 = 0.106$ ). Knowledge utilization and sharing were the strongest contributors to innovation, while knowledge retention had a weaker association (Table 4).

**Relationship between creativity and innovation**

The correlation between creativity and innovation was weaker but significant ( $r = 0.201$ ,  $p = 0.02$ ), accounting for 4% of innovation variance ( $R^2 = 0.04$ ), suggesting that creativity contributes modestly to innovation outcomes (Table 5).

Variable	Mean	r	p-value	R <sup>2</sup>
Knowledge Management	2.73	0.325	< 0.001	10.6%
Organizational Creativity	3.20	-	-	-

Variable	Mean	r	p-value	R <sup>2</sup>
Organizational Creativity	2.99	0.201	0.02	4.0%
Organizational Innovation	3.20	-	-	-

**Subgroup analyses**

To assess how KM, creativity, and innovation varied across different demographic and professional groups, a series of subgroup analyses were performed. These analyses provide a more nuanced understanding of the study's primary findings.

- **Gender Differences:** Independent samples t-tests revealed significant differences based on gender. Male employees reported significantly higher mean scores than their female counterparts across all three constructs: KM ( $2.91 \pm 0.62$  vs.  $2.68 \pm 0.56$ ,  $p < 0.001$ ), creativity ( $3.11 \pm 0.80$  vs.  $2.96 \pm 0.80$ ,  $p < 0.001$ ), and innovation ( $3.29 \pm 0.70$  vs.  $3.17 \pm 0.56$ ,  $p < 0.001$ ).
- **Work Experience:** A one-way ANOVA indicated a significant difference in KM scores among groups with varying levels of work experience ( $F(4,115) = 2.45$ ,  $p = 0.008$ ). Post-hoc analysis showed that employees with 0–4 years of experience had the highest mean KM score ( $2.97 \pm 0.60$ ), which was significantly higher than the group with 20 or more years of experience ( $2.43 \pm 0.43$ ). In contrast, creativity scores did not significantly differ by work experience ( $p = 0.072$ ), nor did innovation scores ( $p = 0.985$ ).
- **Other Subgroup Variables:** No significant relationships were found between KM, creativity, or innovation and the other demographic variables, including age or education level ( $p > 0.05$ ).

**DISCUSSION**

This study examined the relationship between knowledge management (KM) and creativity among employees in educational and therapeutic centers affiliated to Iranshahr University of Medical Sciences. The findings revealed moderate levels of both KM and creativity, with a strong positive correlation between the two constructs. Among the

KM dimensions, knowledge sharing and acquisition were the most influential in enhancing creativity, whereas the overall relationship between KM and organizational innovation was moderate. These results highlight the potential of knowledge-based practices to foster creative capacity and improve organizational performance in healthcare and educational contexts.

The observed moderate KM scores (mean = 2.73) are consistent with those in prior studies in Iranian healthcare settings. Khammarnia et al. reported similar scores (2.69–3.40), indicating comparable institutional engagement with structured knowledge processes (27). Similarly, research in Kerman city demonstrated moderate participation in knowledge creation, sharing, and utilization, reflecting systemic challenges in applying knowledge to practice (28). In regional settings such as Iranshahr, lower scores in knowledge utilization may be influenced by limited technological infrastructure, centralized decision-making, and the absence of formal knowledge dissemination mechanisms, as observed in qualitative data.

The mean creativity score (2.99) aligns with those of previous studies in Ilam (3.02) and other Iranian teaching hospitals, suggesting that while employees have moderate creative potential, organizational and structural barriers may restrict its expression (29). Similar moderate creativity levels have been reported in healthcare systems in Saudi Arabia and Jordan, where hierarchical structures, heavy workloads, and limited autonomy constrain creative output (30, 31). In contrast, healthcare institutions that globally implement systematic KM programs, maintain flatter hierarchies, and promote a culture of innovation tend to demonstrate higher levels of creativity (32).

A significant finding was the strong positive correlation between KM and creativity ( $r = 0.661$ ,  $p < 0.001$ ), corroborating existing literature. The predictive role of knowledge sharing and acquisition supports the findings of Malhotra (2002) and Probst et al. (2006), who emphasized that effective KM provides the social and cognitive infrastructure necessary for innovation (33, 34). Environments that encourage active knowledge exchange create fertile conditions for idea generation and problem-solving (35). In Iran, studies have similarly shown that employees engaged in knowledge sharing and acquisition exhibit higher creative performance, emphasizing the importance of supportive culture and learning-oriented leadership (36).

The moderate correlation between KM and organizational innovation ( $r = 0.325$ ,  $R^2 = 10.6\%$ ) indicates that while KM fosters creative thinking, additional structural and cultural enablers are required to translate creativity into tangible innovation. This aligns with broader research on

organizational change, which highlights the need for managerial support, adequate resources, risk tolerance, and institutional incentives to enable innovation (37, 38). Similar findings in Iranian hospitals underscore that KM alone is necessary but insufficient for achieving comprehensive organizational innovation (39, 40).

Subgroup analyses revealed that male employees scored higher than female employees in KM, creativity, and innovation, and employees with less than five years of experience exhibited the highest KM scores, while those with 20 or more years scored lowest. These patterns may reflect generational differences in digital literacy and familiarity with knowledge-sharing platforms (41, 42). Research conducted in several Middle Eastern healthcare settings has similarly shown that recently hired employees tend to interact more frequently with knowledge management (KM) platforms, whereas staff with longer tenure are more likely to depend on established routines and personal experience (43, 44).

Several organizational factors observed in this study may serve as barriers to KM and creativity (45). Evidence from studies in the Middle East also indicates that engagement with KM practices is often higher among less experienced personnel, while employees with many years of service may rely more on habitual workflows rather than formal knowledge-sharing systems (46, 47). Organizational factors observed in this study that may hinder KM and creativity include centralized decision-making, a focus on routine tasks, and a culture that discourages risk-taking (48-50). These observations are consistent with international literature, which emphasizes leadership support, organizational culture, and infrastructure as critical mediators of the KM-creativity relationship (50-51).

Despite the above-mentioned insights, the study has several limitations. The cross-sectional design limits causal inference between KM and creative performance. Self-reported data may introduce social desirability and recall biases, and the study's context in specific Iranian hospitals may limit generalizability. Additional unmeasured factors, including individual personality traits, workload, and external incentives, may influence knowledge-sharing and creative outcomes. Moreover, although qualitative observations complemented the quantitative findings, a longitudinal mixed-methods approach would provide a more dynamic understanding of KM practices over time.

## CONCLUSION

Employees in the educational and therapeutic centers affiliated to Iranshahr University of Medical Sciences exhibit moderate levels of KM and creativity, with a strong positive association between the two. Knowledge sharing and acquisition were identified as the most influential

KM dimensions for fostering creative capacity. While KM positively correlated with organizational innovation, the effect was moderate, indicating that adequate organizational support is essential for translating creative potential into innovation. Structured KM practices play a central role in cultivating an environment that encourages idea generation, collaborative problem-solving, and continuous learning, which are critical for improving service quality, educational outcomes, and patient care in regional healthcare institutions. The findings also suggest actionable strategies for managers, including strengthening knowledge-sharing platforms, facilitating cross-departmental collaboration, and promoting leadership practices that support creativity and innovation.

**Ethical Considerations:**

Ethical issues, including plagiarism, informed consent, misconduct, data fabrication and/or falsification, double publication and/or submission,

redundancy, etc., have been completely observed by the authors. Participation was voluntary, and informed consent was obtained from all participants prior to data collection. To ensure confidentiality, no personal identifiers were collected, and all information was handled anonymously. The study protocol was approved by the Ethics committee of Iranshahr University of Medical Sciences (Approval Code: IR.IRSHUMS.REC.1404.005) and was conducted in accordance with established ethical guidelines for research involving human subjects.

**ACKNOWLEDGMENTS**

Not applicable.

**Financial Support:** This work received no external funding.

**Conflict of Interest:** The authors declare that there is no conflict of interests.

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