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· 临床研究 ·

系统化护理在儿童口腔科多生牙拔除术中的应用

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【摘要】 目的 探讨系统化护理在儿童口腔科多生牙拔除术中的应用效果,为优化儿童口腔科护理模式提供依据。方法 本研究已通过单位医学伦理委员会审查批准,并获得患者及其监护人知情同意。选取2023年1月—2024年12月期间在南京医科大学附属口腔医院儿童口腔科接受门诊多生牙拔除术的120例6~12岁多生牙患儿作为研究对象,采用随机对照研究设计,分为观察组($n=60$)和对照组($n=60$)。对照组接受常规护理,观察组在常规护理基础上实施系统化护理,包括基于CICARE(Connect, Introduce, Communicate, Ask, Respond, Exit)模式的沟通、改良牙科焦虑量表(modified dental anxiety scale, MDAS)评估下的个性化行为管理、强化型口腔卫生指导及互联网平台延续护理。比较两组患儿的术中配合度(Frankl量表)、家长满意度(自制问卷)、术后1周、3个月、6个月因多生牙导致的恒牙阻生等原因复诊患者的复诊率及Q-H菌斑指数。结果 观察组患儿术中配合度优良率(88.3% vs. 75.0%, $P<0.05$)及家长总满意率(95.0% vs. 78.3%, $P<0.05$)均显著高于对照组。术后3个月和6个月,观察组复诊率(86.7% vs. 30.0%, 80.0% vs. 21.7%)均显著高于对照组(均 $P<0.001$)。术后1周及3个月,观察组菌斑指数显著低于对照组(均 $P<0.001$)。结论 系统化护理干预能有效提高门诊行多生牙拔除术患儿的术中配合度及家长满意度,提升长期复诊依从性,并有助于患儿养成良好的口腔卫生习惯。

【关键词】 系统化护理; 多生牙拔除; 儿童口腔科; 术中配合度; 家长满意度; 复诊依从性; 口腔卫生

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【Abstract】 Objective To investigate the effect of systematic nursing in the extraction of supernumerary teeth in pediatric dentistry, providing evidence for optimizing pediatric dental care models. **Methods** This study has been reviewed and approved by the institutional medical ethics committee and has obtained informed consent from the patients and their guardians. A total of 120 children aged 6-12 years with supernumerary teeth who underwent outpatient extraction in the Department of Pediatric Dentistry, The Affiliated Stomatological Hospital of Nanjing Medical University from January 2023 to December 2024 were selected as the study subjects. A randomized controlled study design was employed, dividing the participants into an observation group ($n=60$) and a control group ($n=60$). The control group re-



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ceived routine care, while the observation group received systematic nursing in addition to routine care, including communication based on the CICARE (Connect, Introduce, Communicate, Ask, Respond, Exit) model, personalized behavior management guided by modified dental anxiety scale (MDAS) assessment, enhanced oral hygiene instruction, and continuous care via an internet platform. Intraoperative cooperation (Frankl scale), parental satisfaction (self-designed questionnaire), postoperative follow-up rates of patients with conditions such as impacted permanent teeth due to supernumerary teeth requiring follow-up visits at 1 week, 3 months, 6 months, and Q-H plaque index were compared between the two groups. **Results** The excellent-good rate of operative cooperation (88.3% vs. 75.0%, $P<0.05$) and the overall parental satisfaction rate (95.0% vs. 78.3%, $P<0.05$) in the observation group were significantly higher than those in the control group. At 3 and 6 months postoperatively, the follow-up rates in the observation group (86.7% vs. 30.0%; 80.0% vs. 21.7%) were significantly higher than those in the control group (both $P<0.001$). At 1 week and 3 months postoperatively, the plaque index in the observation group was significantly lower than that in the control group (both $P<0.001$). **Conclusion** Systematic nursing can effectively improve the intraoperative cooperation of children undergoing outpatient supernumerary teeth extraction and parental satisfaction, enhance long-term follow-up compliance, and help children develop good oral hygiene habits.

【Key words】 systematic nursing; supernumerary teeth extraction; pediatric dentistry; intraoperative cooperation; parental satisfaction; follow-up compliance; oral hygiene

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多生牙,亦称额外牙,是指存在于正常牙列(32颗恒牙、20颗乳牙)之外的牙齿,是儿童口腔科常见的牙齿发育异常^[1-2]。好发于上颌骨前部,尤其是中切牙区,且以7~12岁混合牙列期患儿占比最高^[1,3]。约86.2%的多生牙因埋伏阻生而无临床症状,多依赖影像学检查确诊^[4-5]。此类多生牙的存在常导致邻近恒牙萌出受阻、牙列不齐等错颌畸形^[6-7]。因此,及时诊断并外科手术拔除是治疗多生牙的主要方式^[3,8]。

学龄期的儿童身心尚在发育中,面对侵入性治疗时普遍存在牙科畏惧症^[9-10]。对于多生牙拔除术这种外科手术,无论儿童还是家长通常是焦虑与恐惧的心理,直接降低配合度,影响最终疗效。常规护理模式虽能保障基本医疗流程,但在缓解患儿心理应激、提升长期管理效果方面存在不足^[11]。针对儿童患者的护理模式在各个医学领域也在不断更新进步^[12-13]。系统化护理干预是一种以患者为中心,强调护理的连续性、全面性与个性化的综合性护理模式。它旨在整合沟通引导、行为管理、健康教育及延续护理等多种手段,形成从术前至术后、院内至家庭的闭环支持,以克服常规护理的局限。尽管该模式对护理团队的专业能力和流程协调提出更高要求,但其在改善患者心

理体验、提升治疗配合度及远期健康管理方面的优势已日益凸显。但儿童口腔科的系统化护理及效果分析仍缺乏充分的临床数据支持。

本研究旨在探讨系统化护理对门诊行多生牙拔除术的6~12岁患儿的影响,通过评估术中配合度、家长满意度、术后复诊率以及患儿口腔卫生状态,以验证该模式的临床应用价值,为优化儿童口腔科护理实践提供参考依据。

1 资料和方法

1.1 研究对象与分组

本研究是一项前瞻性随机对照试验。选取2023年1月—2024年12月期间在南京医科大学附属口腔医院儿童口腔科接受门诊多生牙拔除术的120例6~12岁多生牙患儿作为研究对象。本研究方案经南京医科大学医学伦理委员会审查批准(批件号:南医伦审-PJ2022-218-001),所有患儿及其家长均签署知情同意书。

纳入标准:①年龄6~12岁;②经临床检查和影像学检查确诊为多生牙;③美国麻醉师协会(ASA)分级I级,身体状况良好,无系统性疾病;④在儿童口腔科接受局部麻醉下多生牙拔除术,本研究纳入的所有病例手术由同一位高年资主任医

生执行;⑤患儿及家长知情同意。

样本量计算:本研究以Frankl治疗依从性量表(有序分类变量)评分作为主要结局指标。样本量估算采用适用于有序变量的Wilcoxon-Mann-Whitney检验(比例优势比模型)。基于预实验数据,本研究设定对照组患儿配合度的预期分布为:优秀(35%)、良好(40%)、一般(20%)、差(5%),并设定具有临床意义的比例优势比(OR)为2.8。在 $\alpha=0.05$ (双侧)、检验效能($1-\beta$)=80%的条件下,使用PASS 2025软件计算得出每组最小样本量为54例。考虑到约10%的失访率,将样本量扩大至每组60例,总计纳入120例患儿。

分组方法:采用随机数字表法将这120例患儿分为观察组与对照组,每组各60例。对照组接受常规基础护理,观察组在常规护理基础上接受系统化护理。

1.2 护理方法

对照组实施常规基础护理,主要包括:①术前护理:常规检查,包括口内检查和医学影像学检查;医生制定诊疗方案后,护士向家长告知术前常规注意事项,如术前不可空腹,术中张口配合等;②术中护理:护理人员协助医生四手操作下完成手术治疗,如器械传递、配合吸唾等;③术后护理:常规术后健康宣教,包括口头卫生宣教、饮食指导、复诊预约等注意事项。

观察组除常规基础护理外,实施系统化护理,核心内容包括:①术前沟通:全程采用CICARE(Connect, Introduce, Communicate, Ask, Respond, Exit)沟通模式^[14-15]与患儿互动,减轻患儿的焦虑、恐惧情绪以取得患儿信任。与家长交流,帮助其了解手术的基本操作流程,手术中常见问题分析以及家长参与的重要性,以取得家长的配合。②基于焦虑评估的个性化护理:根据术前使用改良牙科焦虑量表(modified dental anxiety scale, MDAS)^[16-17]评估结果,对中、重度焦虑患儿重点采用告知-演示-操作法(tell-show-do, TSD法)、视听觉分散注意力法等非药物行为管理技巧进行心理疏导与行为引导^[17-18]。③术中护理:持续使用CICARE沟通模式与患儿保持沟通;及时给予患儿正面反馈和鼓励;指导家长门诊陪同治疗,在术中对患儿进行正向引导以促进其配合。④强化型口腔卫生指导^[19-20]:基于牙齿模型一对一的口腔卫生指导,且于每次菌斑染色检查后在门诊现场刷牙,由护士检查指导,实时反馈强化。⑤术后护理:建

立互联网随访平台,定期推送复查提醒及口腔卫生保健科普资料,提供持续健康咨询^[21]。术后强调复诊复查的重要性,制定长期随访与管理计划,并在术后1周、3个月和6个月随访提醒复查^[22-23]。

1.3 观察指标及评价标准

本研究对所有患儿进行以下指标的评估:焦虑程度、术中配合度、家长满意度、复诊依从性及口腔卫生状况。对照组数据仅作为基线及效果评价的依据,不据此进行护理干预。所有参与评估的医护人员(1名医生、2名护士)在研究前接受了统一培训,并接受了Kappa一致性检验,Kappa值为0.85,表明评估者间一致性良好。具体如下:①焦虑程度:术前,由一名经过培训的护理人员使用MDAS对所有患儿焦虑水平进行评估。该量表采用5个问题,分别为1~4分,总分5~20分,评分越高表明焦虑情绪越严重^[9, 16]。根据总分划分为:5~8分(无明显焦虑)、9~12分(轻度焦虑)、13~16分(中度焦虑)、17~20分(重度焦虑);②手术配合度:术后,由3名未参与分组且经过量表使用标准化培训的医护人员使用Frankl治疗依从性量表(Frankl behavior rating scale)^[9, 24]对所有患儿在术中的配合度进行独立评分。评分为4级:1分(差):拒绝/痛苦;2分(一般):不合作/不情愿;3分(良好):合作/冷淡;4分(优秀):主动合作/享受。取3名评估者评分的平均值作为该患儿的最终得分;③家长满意度:术后1周复查时,采用自制满意度问卷^[25-27](涵盖护理态度、专业性、信息提供等维度)进行评估,等级分为:非常满意、满意、一般、不满意;④复诊依从性:多生牙拔除后复诊具有重要意义,因多生牙易伴发恒牙阻生、牙列不齐等多种继发病变,即便多生牙已拔除,这类继发病变往往难以引起家长及患者的足够重视,需通过护理干预提升患者的及时复诊率,以实现后续病变的及时干预治疗。本研究记录并比较两组所有入组患儿中在术后1周、3个月及6个月这3个时间点的实际复诊情况,并计算各时间点的复诊率;⑤口腔卫生情况:于术前以及术后1周、3月、6月评估所有就诊患儿的口腔卫生状态^[21, 28]。采用改良Turesky菌斑指数(Q-H指数)记录法^[29],由同一位未参与分组的医生操作。检查时用菌斑指示剂进行染色,仅对患儿口内恒牙进行检查计分。计分标准:0分:无菌斑,无染色区;1分:牙邻面颈部龈缘散在分布点状菌斑染色区域;2分:牙邻面颈部分布连续菌斑,呈窄带状染色,宽度 ≤ 1 mm,表现

为仅龈缘一条细线状染色;3分:牙邻面颈部分布菌斑,染色面积>1 mm,但覆盖面积不超过牙邻面颈部面积的1/3;4分:菌斑染色面积占牙邻面1/3~2/3;5分:菌斑染色覆盖面积>2/3。

1.4 统计学方法

采用SPSS27软件进行数据分析。计量资料以均数±标准差表示,组间比较采用*t*检验;计数资料以频数(百分比)表示,组间比较采用卡方或Fisher检验。等级资料组间以频数(百分比)表示,比较采用Mann-Whitney *U* 检验。以*P*<0.05为差异具有统计学意义。

2 结果

2.1 研究对象基线特征

本研究共纳入120例6~12岁多生牙患儿,平均年龄(8.4±1.9)岁,随机分配至观察组与对照组,每组各60例,对照组多生牙总数71颗,观察组77颗。研究对象的基本特征如下表1所示:两组患儿在年龄、性别、多生牙数量与位置、萌出状态、术前MDAS评分基线资料上比较,差异均无统计学意义(*P*>0.05),说明两组患儿资料具有可比性。

2.2 手术配合度比较

采用Frankl治疗依从性量表评估,结果显示观察组患儿的术中配合度显著优于对照组(*Z*=-2.867, *P*=0.004)。观察组被评为“优秀”配合等级的患儿比例(58.3%, 35/60)显著高于对照组(33.3%, 20/60)。观察组配合度“优良”(优秀+良好)的总比例为88.3%(53/60),亦显著高于对照组的

75.0%(45/60)。对照组中有2例(3.3%)患儿表现为“差”的配合等级,而观察组无此类情况(表2)。

2.3 家长满意度比较

术后1周的家长满意度调查显示,两组之间存在显著差异(*Z*=-3.407, *P*=0.001)。观察组家长表示“非常满意”的比例为70.0%(42/60),显著高于对照组的41.6%(25/60)。观察组家长的总体满意率(非常满意+满意)达到95.0%(57/60),而对照组为78.3%(47/60)(表3)。

2.4 术后复诊依从性比较

在术后1周短期随访中,两组复诊率均较高,且无显著差异(观察组:95.0% vs. 对照组:93.3%, *P*=1.000)。然而,在术后中长期随访中,观察组的复诊依从性显著优于对照组。术后3个月,观察组复诊率为86.7%(52/60),显著高于对照组的30.0%(18/60)($\chi^2=39.634$, *P*<0.001)。术后6个月,观察组复诊率保持在80.0%(48/60),而对照组进一步下降至21.7%(13/60),组间差异具有统计学意义($\chi^2=40.845$, *P*<0.001)(表4)。上述数据显示,系统化护理对维持中长期复诊率具有显著且持续的积极影响。

2.5 口腔卫生状态(菌斑指数)比较

对术前以及术后定期复诊的儿童进行改良Turesky菌斑指数(Q-H指数)进行检查如表5所示,术前两组菌斑指数无显著差异(*P*>0.05),具有可比性;术后1周,观察组菌斑指数由术前的3.2±0.7迅速下降至1.5±0.5,并显著低于同期对照组(3.1±

表1 两组患儿基线特征比较

Table 1 Comparison of baseline characteristics between the two groups

Characteristics	Control group(n=60)	Observation group (n=60)	<i>t</i> / χ^2	<i>P</i>	<i>n</i> (%)
Age/years, $\bar{x}\pm s$	8.3±2.1	8.5±1.8	-0.519	0.605	
Gender			0.376	0.540	
Male	42(70.0)	45(75.0)			
Female	18(30.0)	15(25.0)			
Number of supernumerary teeth, $\bar{x}\pm s$	1.2±0.4	1.3±0.5	-1.186	0.238	
Location of supernumerary teeth*			0.860	0.354	
Maxillary	60 (84.5)	69 (89.6)			
Mandibular	11 (15.5)	8 (10.4)			
Eruption status of supernumerary teeth*			0.080	0.930	
Erupted	29 (40.8)	32 (41.6)			
Unerupted	42 (59.2)	45 (58.4)			
Preoperative MDAS, $\bar{x}\pm s$	13.3±3.5	13.5±3.3	-0.322	0.748	

Control group: received routine basic nursing care; observation group: in addition to routine basic nursing, implemented systematic interventions. *Total number of supernumerary teeth: 77 in the observation group and 71 in the control group. MDAS: modified dental anxiety scale

表2 两组患儿术中配合度比较

Table 2 Comparison of intraoperative cooperation between the two groups *n*(%)

Cooperation	Control group	Observation group	<i>Z</i>	<i>P</i>
	(<i>n</i> =60)	(<i>n</i> =60)		
Excellent	20 (33.3)	35 (58.3)	-2.867	0.004
Good	25 (41.7)	18 (30.0)		
Fair	13 (21.7)	7 (11.7)		
Poor	2 (3.3)	0 (0.0)		

Control group: received routine basic nursing care; observation group: in addition to routine basic nursing, implemented systematic interventions

表3 两组患儿的家长满意度比较

Table 3 Comparison of parental satisfaction between the two groups *n*(%)

Satisfaction level	Control group	Observation group	<i>Z</i>	<i>P</i>
	(<i>n</i> =60)	(<i>n</i> =60)		
Very satisfied	25 (41.6)	42 (70.0)	-3.407	0.001
Satisfied	22 (36.7)	15 (25.0)		
Neutral	10 (16.7)	3 (5.0)		
Dissatisfied	3 (5.0)	0 (0.0)		

Control group: received routine basic nursing care; observation group: in addition to routine basic nursing, implemented systematic interventions

表4 两组患儿术后不同时间点复诊率比较

Table 4 Comparison of follow-up compliance rates between the two groups at different postoperative time points *n*(%)

Follow-up time points	Control group (<i>n</i> =60)	Observation group (<i>n</i> =60)	χ^2	<i>P</i>
1 week	56 (93.3)	57 (95.0)	0.152	1.000
3 months	18 (30.0)	52 (86.7)	39.634	<0.001
6 months	13 (21.7)	48 (80.0)	40.845	<0.001

Control group: received routine basic nursing care; observation group: in addition to routine basic nursing, implemented systematic interventions

0.5), 差异具有统计学意义($P<0.001$)。术后3月, 在完成随诊的患儿中(观察组 $n=52$, 对照组 $n=18$), 观察组的菌斑指数(1.8 ± 0.5)显著低于对照组(2.4 ± 0.7)($P<0.001$)。术后6个月, 在完成随诊的患儿中(观察组 $n=48$, 对照组 $n=13$), 观察组菌斑指数(2.0 ± 0.7)与对照组(2.2 ± 0.4)的差异无统计学意义($P=0.368$)(表5)。

需特别说明的是, 术后3个月及6个月随访期间, 两组均出现不同程度的失访, 其中对照组失访率较高(3个月为70.0%, 6个月为78.3%), 其数据主要反映了坚持复诊患儿的口腔卫生状况, 其结果可能受到“幸存者偏倚”的影响, 不能完全代表

初始人群的口腔卫生状态。

表5 两组患儿不同时间点菌斑指数比较

Table 5 Comparison of plaque index between the two groups at different time points $\bar{x}\pm s$

Assessment time point	Control group (<i>n</i> =60)	Observation group (<i>n</i> =60)	<i>t</i>	<i>P</i>
Preoperatively	3.3 ± 0.6	3.2 ± 0.7	0.554	0.581
1 week	3.1 ± 0.5 ($n=56$)	1.5 ± 0.5 ($n=57$)	16.208	<0.001
3 months	2.4 ± 0.7 ($n=18$)	1.8 ± 0.5 ($n=52$)	3.779	<0.001
6 months	2.2 ± 0.4 ($n=13$)	2.0 ± 0.7 ($n=48$)	0.907	0.368

Control group: received routine basic nursing care; observation group: in addition to routine basic nursing, implemented systematic interventions

3 讨论

多生牙是一种常见的牙齿数目的发育异常, 常埋伏阻生或异位萌出, 易伴发颌骨囊肿、错颌畸形等并发症^[1-3]。目前, 手术拔除多生牙是治疗多生牙的主要方式^[6-8]。关于拔除时机, 大多数研究认为早期干预(通常7岁左右)有助于引导继承恒牙自行改善错颌畸形^[7, 30]。

本研究中纳入的120例门诊拔除多生牙病例, 平均龄为8.4岁。与成人或全麻下拔除术相比, 门诊儿童多生牙拔除术的难度显著增加^[8, 31]。首先, 儿童的口腔空间小, 手术视野差, 加上多生牙常位于上颌前部腭侧或高位埋伏, 位置隐匿且解剖关系复杂, 这都增加了手术的操作难度和时间^[8, 32]。其次, 儿童患者的心理发育尚不成熟, 普遍存在牙科畏惧症^[10, 17]。在本研究中, 两组患儿术前均表现出较高水平的焦虑。这种焦虑状态可能造成患儿术中出现哭闹、挣扎等不配合情况, 导致手术无法继续, 甚至引发意外损伤。家长的焦虑状态也是不容忽视的, 因对手术流程、麻醉风险、术后并发症等缺乏了解而产生担忧, 如对手术认知不足, 易将术中正常出血等视为意外, 加剧自身紧张。这种紧张也会通过语言、表情和行为影响患儿^[33-34]。因此想确保门诊手术的成功与安全, 患儿和家长的配合必不可少。

常规护理侧重于术中配合与执行医嘱, 如术前器械药品的准备, 术中的器械传递、吸唾, 术后的常规伤口护理等^[11]。这种护理模式足以应对常规口腔操作。但在儿童口腔门诊, 尤其是多生牙拔除这种具有一定难度的手术中显得尤为不足, 常导致诸多问题, 使得许多原本可以在门诊完成的手术, 因患儿不配合而被迫中止或转为全麻下

进行,增加了医疗风险与家庭经济负担。

因此,本研究将系统化护理体系^[12-13]应用于儿童门诊多生牙拔除术,以提高患儿的配合度。首先,系统化护理采用CICARE沟通模式^[14-15],通过标准化的沟通,缓解家长的焦虑,取得其理解与配合,不仅能预防因医患沟通不畅引发的医患矛盾,还能让家长参与进来,引导儿童配合,使其成为团队中的合作者而非干扰源^[33, 35]。其次,术前基于改良版MDAS的量化评估^[16],能够精准把握儿童心理性格状态,术中能够个性化地结合非药物行为管理方法,如TSD法、视听觉分散注意力法等^[17-18],实现对轻度焦虑患儿的有效引导,对中重度焦虑患儿的系统性脱敏^[36-37]。术中让家长参与也能够提升患儿安全感,提高配合度^[33-34]。术后的及时表扬与奖励,强化了儿童正向心理,重塑了患儿对牙科治疗的认知,也有利于儿童的心理建设^[18, 38]。本研究中,应用系统化护理的观察组配合度优良率明显高于对照组。这充分说明系统化护理明显提升了在门诊儿童多生牙拔除术中的患儿配合度。

本研究结果显示,观察组家长总满意率显著高于对照组,这一差异说明护理措施在提升家长满意度方面效果明确。家长的满意度改进主要体现在疑惑担忧得到及时充分的解答,弥补了医疗信息差;全程参与,家长更有安全感,提升了对医疗服务的信任度;而医护人员对孩子非药物行为管理,得到了家长的认可等^[25-27]。值得注意的是,本研究纳入的病例手术由同一高年资医生操作,排除了手术操作医生等因素影响,使得满意度差异主要来源于干预本身。

多生牙易伴发恒牙阻生、牙列不齐等多种继发病变,即便多生牙已拔除,这类继发病变往往难以引起家长及患者的足够重视,需通过护理化干预提升患者的及时复诊率,以实现后续病变的及时干预治疗,因此多生牙拔除后复诊具有重要意义。本系统通过互联网随访平台,建立医患持续交流通道,分别在术后1周、3个月和6个月随访,推送复查提醒及口腔保健资料,提供持续健康指导^[22-23]。应用系统化护理后,观察组术后6个月复诊率仍保持在80.0%,而对照组只有21.7%,系统化护理能增强家长对定期复查重要性的认知,大幅提高患者的复诊依从性。这一结果也验证了延续性护理在健康管理中的重要价值^[22]。

口腔卫生宣教具有重要作用,是需要贯穿于

口腔治疗始终的。而在常规护理中,这一环节趋于流程化,并没有起到明显效果^[20]。在本研究中,两组患儿术前的口腔卫生均较差。系统化护理首先基于牙齿模型一对一的口腔卫生指导,让患儿对刷牙方法有清晰的认识,并在每次就诊时行菌斑染色,对牙菌斑有了具象的认识基础上现场刷牙^[19]。刷牙后由护士检查指导,实时反馈强化,形成认知—实践—矫正的闭环模式^[28, 39]。结果显示,系统化护理措施能快速、显著地改善患儿口腔卫生。观察组术后6个月的菌斑指数仍稳定维持在较低水平,这表明通过系统化护理,家长和患儿已认识到口腔卫生的重要性,并掌握了有效的牙齿护理方法。尽管在完成6个月随访的患儿中,两组菌斑指数未显示统计学显著差异,但这并不表示系统化护理的长期效果消失。这一结果更可能反映了对照组极高的失访率所导致的统计检验效能不足及潜在的“幸存者偏倚”,即最终完成随访的对照组患儿,可能其家庭对口腔健康的重视程度以及复诊依从性本身优于未随访者。对照组数据的严重缺失,恰恰从反面印证了系统化护理在提升复诊依从性方面的必要性。

本研究的局限性。首先,这是一项单中心研究,样本量相对有限,结果的外推性有待在不同地区、不同等级的医疗机构中进行多中心、大样本验证。其次,评估家长满意度的问卷为自制工具,虽参考了成熟文献,但未在本次研究人群中进行正式的信度与效度检验,可能存在测量偏差,且于术后一周问卷收集的方式,反馈时效性不足。诊疗结束立即评价更能够获得真实体验,今后的研究进一步优化实验设计。

综上所述,系统化护理能有效提高门诊多生牙拔除患儿的术中配合度与家长满意度,并通过延续性护理机制显著提升中长期复诊依从性,同时能在短期内有效改善患儿口腔卫生。该模式通过精准的量表分析、主动的心理疏导、科学的行为管理和专业的医护配合,构建了一个以患儿为中心的医疗服务系统,能够促进长期口腔健康行为的建立,是一次长期的健康管理体系有效实践。系统化护理在多生牙拔除患儿的围手术期管理中展现出显著优势,值得在儿童口腔临床护理中推广应用。

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and approved the final manuscript as submitted.

参考文献

- [1] 葛立宏. 儿童口腔医学[M]. 5版. 北京: 人民卫生出版社, 2020: 58-59.
Ge LH. Pediatric dentistry[M]. 5th ed. Beijing: People's Medical Publishing House, 2020: 58-59.
- [2] Anthonappa RP, King NM, Rabie ABM. Aetiology of supernumerary teeth: a literature review[J]. *Eur Arch Paediatr Dent*, 2013, 14(5): 279-288. doi: 10.1007/s40368-013-0082-z.
- [3] Li J, Xie Y, Xie F, et al. Analysis of the distribution and characteristics of supernumerary teeth in the pediatric population of Shanghai, China: a retrospective study[J]. *BMC Oral Health*, 2026(1): 405. doi:10.1186/s12903-025-07595-7.
- [4] Ma X, Jiang Y, Ge H, et al. Epidemiological, clinical, radiographic characterization of non-syndromic supernumerary teeth in Chinese children and adolescents[J]. *Oral Dis*, 2021, 27(4): 981-992. doi: 10.1111/odi.13628.
- [5] 刘晓琳, 任群, 白九平, 等. 基于锥形束CT的1138颗多生牙影像学特征分析[J]. *华西口腔医学杂志*, 2023, 41(6): 671-677. doi:10.7518/hxkq.2023.2023110.
Liu XL, Ren Q, Bai JP, et al. Imaging analysis of 1138 supernumerary teeth by using cone-beam computed tomography[J]. *West Chin J Stomatol*, 2023, 41(6): 671-677. doi: 10.7518/hxkq.2023.2023110.
- [6] Seehra J, Mortaja K, Wazwaz F, et al. Interventions to facilitate the successful eruption of impacted maxillary incisor teeth due to the presence of a supernumerary: a systematic review and meta-analysis[J]. *Am J Orthod Dentofacial Orthop*, 2023, 163(5): 594-608. doi: 10.1016/j.ajodo.2023.01.004.
- [7] Pescia R, Kiliaridis S, Antonarakis GS. Spontaneous eruption of impacted maxillary incisors after surgical extraction of supernumerary teeth: a systematic review and meta-analysis[J]. *Clin Oral Investig*, 2020, 24(11): 3749-3759. doi: 10.1007/s00784-020-03369-3.
- [8] 张亚秋, 冯彩华, 梁丽荣, 等. 1865例儿童及青少年多生牙的临床特征与手术麻醉方式选择的相关性分析[J]. *口腔疾病防治*, 2024, 32(12): 954-962. doi: 10.12016/j.issn.2096-1456.202440333.
Zhang YQ, Feng CH, Liang LR, et al. Analysis of the correlation between the clinical features of 1865 children and adolescents with supernumerary teeth and the selection of anesthesia methods [J]. *J Prev Treat Stomatol Dis*, 2024, 32(12): 954-962. doi: 10.12016/j.issn.2096-1456.202440333.
- [9] Sun IG, Chu CH, Lo ECM, et al. Global prevalence of early childhood dental fear and anxiety: a systematic review and meta-analysis[J]. *J Dent*, 2024, 142: 104841. doi: 10.1016/j.jdent.2024.104841.
- [10] Shindova MP, Belcheva AB. Dental fear and anxiety in children: a review of the environmental factors[J]. *Folia Med (Plovdiv)*, 2021, 63(2): 177-182. doi: 10.3897/folmed.63.e54763.
- [11] Dantas AMN, Santos-Rodrigues RCD, Silva Júnior JNB, et al. Nursing theories developed to meet children's needs: a scoping review[J]. *Rev Esc Enferm USP*, 2022, 56: e20220151. doi: 10.1590/1980-220X-REEUSP-2022-0151en.
- [12] Yu X, Han CY. Effect assessment of evidence-based nursing in combination with clinical nursing pathway on nephrotic syndrome care in children: a protocol for systematic review and meta-analysis [J]. *Medicine (Baltimore)*, 2021, 100(22): e25990. doi: 10.1097/MD.00000000000025990.
- [13] Dong Z, Li G, Wang M, et al. Effect of systematic nursing intervention on rehabilitation after colorectal polyps of endoscopic removal in children: a protocol for systematic review and meta-analysis[J]. *Medicine (Baltimore)*, 2021, 100(12): e25109. doi: 10.1097/MD.00000000000025109.
- [14] Morya AK, Behera RK, Gupta PC, et al. CICARE based communication technique: a passage to faster and smoother visual rehabilitation in post cataract surgery patients[J]. *World J Clin Cases*, 2024, 12(36): 6947-6949. doi: 10.12998/wjcc.v12.i36.6947.
- [15] Zhao Y, Pang M, Xu Y. CICARE communication model and hierarchical responsibility nursing coordination in the application research of elderly patients with chronic heart failure[J]. *Medicine (Baltimore)*, 2024, 103(37): e39293. doi: 10.1097/MD.00000000000039293.
- [16] Yeung AWK. Exploring the variations in the use of modified dental anxiety scale (MDAS) in literature: a survey of studies published from 2014 to 2023[J]. *Clin Exp Dent Res*, 2024, 10(6): e70040. doi: 10.1002/cre2.70040.
- [17] Lin CS, Lee CY, Wu SY, et al. Translation and validation of modified dental anxiety scale based on adult Taiwan population[J]. *BMC Oral Health*, 2021, 21(1): 647. doi: 10.1186/s12903-021-02017-w.
- [18] Kong X, Song N, Chen L, et al. Non-pharmacological interventions for reducing dental anxiety in pediatric dentistry: a network meta-analysis[J]. *BMC Oral Health*, 2024, 24(1): 1151. doi: 10.1186/s12903-024-04919-x.
- [19] Chen J, Deng K, Yu D, et al. Recent developments in the non-pharmacological management of children's behavior based on distraction techniques: a concise review[J]. *Healthcare (Basel)*, 2024, 12(19): 1940. doi: 10.3390/healthcare12191940.
- [20] Jeong JS, Kim KS, Lee JW, et al. Efficacy of tooth brushing via a three-dimensional motion tracking system for dental plaque control in school children: a randomized controlled clinical trial[J]. *BMC Oral Health*, 2022, 22(1): 626. doi: 10.1186/s12903-022-02665-6.
- [21] Gund MP, Bucher M, Hannig M, et al. Oral hygiene knowledge versus behavior in children: a questionnaire-based, interview-style analysis and on-site assessment of toothbrushing practices[J]. *Clin Exp Dent Res*, 2022, 8(5): 1167-1174. doi: 10.1002/cre2.607.
- [22] Zhang YY, Cui LX, Zhang L, et al. Continuous nursing care improving outcomes of patients after percutaneous coronary intervention[J]. *Medicine (Baltimore)*, 2024, 103(48): e40807. doi: 10.1097/MD.00000000000040807.
- [23] Bender M, Jain N, Giron A, et al. Factors influencing compliance to follow-up visits in orthopaedic surgery[J]. *J Am Acad Orthop Surg Glob Res Rev*, 2024, 8(1): e23.00140. doi: 10.5435/

- JAAOSGlobal-D-23-00140.
- [24] Mathur J, Diwanji A, Sarvaiya B, et al. Identifying dental anxiety in children's drawings and correlating it with Frankl's behavior rating scale[J]. *Int J Clin Pediatr Dent*, 2017, 10(1): 24-28. doi: 10.5005/jp-journals-10005-1401.
- [25] Emami E, Harnagea H, Shrivastava R, et al. Patient satisfaction with e-oral health care in rural and remote settings: a systematic review[J]. *Syst Rev*, 2022, 11(1): 234. doi: 10.1186/s13643-022-02103-2.
- [26] Chua GCC, Cyna AM. Satisfaction measures in pediatric anesthesia and perioperative care[J]. *Paediatr Anaesth*, 2021, 31(7): 746-754. doi: 10.1111/pan.14197.
- [27] Mendoza BA, Fortier MA, Trinh LN, et al. Factors impacting parental and child satisfaction in the perioperative setting[J]. *Paediatr Anaesth*, 2021, 31(9): 932-943. doi: 10.1111/pan.14236.
- [28] Girard IM, Ward P, Durey A, et al. A qualitative meta-synthesis of carers' perceptions of factors influencing preschool children's oral hygiene practices-a social practices perspective[J]. *Community Dent Oral Epidemiol*, 2024, 52(5): 677-689. doi: 10.1111/cdoe.12973.
- [29] 冯希平. 口腔预防医学 [M]. 7版. 北京: 人民卫生出版社, 2020: 35.
- Feng XP. Oral preventive medicine [M]. 7th ed. Beijing: People's Medical Publishing House, 2020: 35.
- [30] Jung YH, Kim JY, Cho BH. The effects of impacted premaxillary supernumerary teeth on permanent incisors[J]. *Imaging Sci Dent*, 2016, 46(4): 251-258. doi: 10.5624/isd.2016.46.4.251.
- [31] Liu J, Wang X, Shan P, et al. A randomized controlled trial: evaluation of efficiency and safety of a novel surgical guide in the extraction of deeply impacted supernumerary teeth in the anterior maxilla[J]. *Ann Transl Med*, 2022, 10(6): 292. doi: 10.21037/atm-22-585.
- [32] Suenaga H, Sakakibara A, Taniguchi A, et al. Computer-assisted preoperative simulation and augmented reality for extraction of impacted supernumerary teeth: a clinical case report of two cases[J]. *J Oral Maxillofac Surg*, 2023, 81(2): 201-205. doi: 10.1016/j.joms.2022.10.017.
- [33] Vello-Ribes MA, Aura-Tormos JI, Valero-Contelles C, et al. Behavioural impact of parental presence versus absence in paediatric dentistry: a systematic review[J]. *Dent J (Basel)*, 2026, 14(1): 33. doi:10.3390/dj14010033.
- [34] Hegde T, Bhavyashri P, Vasthare R, et al. Evaluation of parental dental fear and anxiety (DFA) on adolescent dental treatment: a narrative review[J]. *J Int Soc Prev Community Dent*, 2022, 12(1): 12-19. doi: 10.4103/jisped.JISPCD_261_21.
- [35] Ayoub S, Finkelman MD, Swee GJ, et al. An investigation of the association between parenting style and child's dental caries: a cross-sectional study[J]. *Sci Rep*, 2024, 14: 18134. doi: 10.1038/s41598-024-69154-4.
- [36] Tang SJ, Wei HL, Li CY, et al. Management strategies of dental anxiety and uncooperative behaviors in children with autism spectrum disorder[J]. *BMC Pediatr*, 2023, 23(1): 612. doi: 10.1186/s12887-023-04439-7.
- [37] Steenen SA, Linke F, van Westrhenen R, et al. Interventions to reduce adult state anxiety, dental trait anxiety, and dental phobia: a systematic review and meta-analyses of randomized controlled trials[J]. *J Anxiety Disord*, 2024, 105: 102891. doi: 10.1016/j.janxdis.2024.102891.
- [38] Gizani S, Seremidi K, Katsouli K, et al. Basic behavioral management techniques in pediatric dentistry: a systematic review and meta-analysis[J]. *J Dent*, 2022, 126: 104303. doi: 10.1016/j.jdent.2022.104303.
- [39] Chua H, Sardana D, Turner R, et al. Effectiveness of oral health education methods on oral hygiene in children and adolescents with visual impairment: a systematic review[J]. *Int J Paediatr Dent*, 2021, 31(6): 724-741. doi: 10.1111/ipd.12788.

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