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The Influence of Parental Knowledge and Experience on Behavioral Management in Child Rearing

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Abstract

Background: Children's emotional reactions, such as fear or resistance, are strongly influenced by how parents manage their behavior during medical procedures. Effective behavioral management which means parenting practices in managing children's behavior, plays a crucial role in helping children face medical procedures calmly and cooperatively. Various factors may affect implementation of behavioral management, including knowledge and experience.

Objective: This study aimed to examine the association of parents' knowledge and experience on the implementation of behavioral management in parenting.

Methods: This study employed a quantitative, non-experimental design. The population consisted of parents whose children received health examinations at the Pediatric Outpatient Clinic, with a total of 70 participants selected using accidental sampling. Data were analyzed using ordinal logistic regression.

Results: Respondents with poor knowledge had a 68% lower likelihood of demonstrating better behavior management compared with those with good knowledge ($OR = 0.32$; 95% CI: 0.10–0.96; $p = 0.05$), while moderate knowledge showed a similar but statistically non-significant trend ($OR = 0.42$; $p = 0.09$). Respondents with poor experience had a 70% lower likelihood of exhibiting better behavior management ($OR = 0.30$; 95% CI: 0.09–1.00; $p = 0.05$), whereas moderate experience was not significantly associated with behavior management ($OR = 1.18$; $p = 0.73$).

Conclusion: Parents are expected to apply behavioral management strategies in clinical setting based on knowledge and experience to reduce fear and anxiety in children, such as preparatory communication, distraction techniques, play therapy and collaboration with health care staff.

Keywords: children, behavioral management, experience, knowledge, parents

INTRODUCTION

Caregiver knowledge plays a central role in shaping caregiving behaviors and the implementation of appropriate parenting strategies. Adequate understanding of child development enables caregivers to respond

effectively to children's behavioral and emotional needs (1), particularly when children experience distress or discomfort. This is especially evident in clinical settings, where unfamiliar environments and medical procedures often elicit heightened emotional reactions from children. Caregivers who possess sufficient

knowledge of developmental processes and evidence-based caregiving strategies are better equipped to manage these behavioral challenges, thereby supporting both the delivery of healthcare and the child's emotional well-being (2,3). Previous studies have demonstrated that parenting interventions incorporating caregiver knowledge components are associated with significant improvements in children's socio-emotional and behavioral functioning, as well as developmental outcomes, including cognitive, language, and motor development (4,5). Caregivers are better equipped to anticipate developmentally normative responses and engage in effective co-regulation strategies, such as reassurance, emotional support, and distraction (6,7). Conversely, limited knowledge and experience may hinder caregivers' ability to manage children's behavioral challenges, potentially exacerbating distress, disrupting the delivery of care, and negatively influencing children's emotional well-being. Understanding the interplay between caregiver knowledge and experience is therefore essential for optimizing behavioral management and improving the quality of pediatric healthcare delivery.

Children represent the initial stage of achieving optimal growth and development. They are often dependent on their parents or informal caregivers. The prevalence of children aged 0–14 years reached 8.2 million in 2022 (East Java Provincial Health Office, 2023). In Malang Regency, 39,039 out of 189,600 children under five years old (21%) experienced illness. Data further show that in 2024, the number of children aged 0–14 years in Tajinan District, Malang Regency, was 1,024, with 232 under-five children visiting the pediatric clinic in January 2024 (8). High utilization of pediatric health services inevitably places children in clinical environments that may provoke fear, discomfort, and emotional distress due to their reluctance to be separated from their informal caregivers (parents or guardians), which is a natural part of child development (9).

Fear of separation from parents or caregivers during medical examinations (such as illness or immunization) can disrupt a child's sense of security, have negative emotional regulation and social skills consequences, thus requiring active parental involvement to ensure effective health examinations (10,11). Previous studies revealed that the presence of parents during medical procedures reduces children's levels of pain and

anxiety compared to those who are unaccompanied (12). Moreover, parental behaviors such as empathy, granting children a sense of control, offering apologies for discomfort, and avoiding hypersensitive criticism are strongly correlated with children's distress levels and pain perception (13). Such comfort can be achieved when parents implement appropriate behavioral management strategies.

Behavioral management refers to a set of behavior-modification techniques based on the principles of behaviorism, aimed at fostering adaptive responses through positive reinforcement and reducing maladaptive behaviors (14). Effective parental behavioral management is essential in helping children face medical procedures with calmness and cooperation (15). Behavioral difficulties in clinical settings commonly occur during medical procedures and periods of separation from caregivers. However, the management of these difficulties is closely associated with caregivers' general behavioral management practices applied in daily life. In the present study, behavioral management is defined as routine parenting in daily life and clinical setting, including medical examinations, procedures, and outpatient visits. However, many parents still lack adequate knowledge and experience in managing children's behavior during medical situations. Previous studies indicate that factors such as educational level, prior experience, social support, and understanding of medical procedures significantly influence parents' ability to apply effective behavioral management (16). Insufficient understanding in this area may lead to heightened child anxiety, resistance to medical procedures, and even impact treatment outcomes.

A preliminary study conducted at Tajinan Public Health Center found that many children cried during health examinations due to fear of medical instruments and healthcare workers. Parents tended to comfort their children through touch and verbal reassurance but often failed to prepare them in advance for the examination. Observations also revealed that although a play area was available at the clinic, it was rarely utilized by parents. Therefore, this study aims to analyze the association of parental knowledge and experience on the implementation of behavioral management in child rearing among parents of outpatient children at Tajinan Public Health Center.

METHODS

Study Design

This study employed a quantitative, non-experimental design and utilized a cross-sectional approach.

Participants

The population in this study consists of 161 parents who accompany their children aged 0-5 years for health examinations or immunizations at the Pediatric Clinic of the Tajinan Community Health Center. The sampling technique employed was accidental sampling, requiring 62 respondents; an additional 10% was included by the researcher, resulting in a total of 69 participants. Participants were recruited using convenience (accidental) sampling due to limited access to eligible caregivers and the need to collect data during routine clinical hours. This approach allowed observation of real-time behavior management in the natural clinical setting.

Instrument

This study involved two groups of variables: independent variables, which included knowledge and experience, and a dependent variable, namely the implementation of behavioral management. Data were collected from respondents using questionnaires to assess the required variables. This study utilized several questionnaires, including: the knowledge questionnaire consisting of 10 multiple-choice questions aimed at assessing parents' knowledge of behavioral management. The knowledge questionnaire items consist of questions addressing the objectives of behavioral management (1 item) and the techniques or strategies used in behavioral management (9 items). Scores were calculated by summing correct responses and categorized as good (8-10), moderate (6-7), and poor (<6). The experience questionnaire comprising 4 items with 5-point Likert scale responses ranging from strongly disagree to strongly agree to evaluate the quality of parents' experiences in implementing behavioral management. The experience questionnaire consists of item addressing the experience of involvement to guide children behavior (2 items) and the extent of the caregiver's role in guiding child behavior (2 items). Based on the results of the reliability test, all items in the knowledge and experience questionnaire showed Corrected Item-Total

Correlation values above 0.30 and all items indicating reliable for each questionnaire with the value: KR-20= 0.931 for knowledge questionnaire and Cronbach's Alpha 0.833 for experience questionnaire). Furthermore, since each item demonstrated a positive and significant correlation with the total score, the instruments were also considered valid for use in this study. The short version of the Alabama Parenting Questionnaire (APQ), which consists of 9 items covering the dimensions of positive parenting (3 items), inconsistent discipline (3 items), and poor supervision (3 items) (17). The APQ uses a 5-point Likert scale ranging from never to always, and is designed to identify the application of behavioral management in parenting practices. Category scores were calculated based on the mean value of all items: 2.8-3.3 (Low), 3.4-3.9 (moderate), 4-4.5 (high), >4.5 (very high). A CFA suggested the 3-factor APQ structure is tenable, $\chi^2 (24) = 44.10$, $\chi^2/df = 1.84$, RMSEA = 0.044, CFI = 0.951, TLI = 0.926, SRMR = 0.043 (18). The internal consistency reliability was $\alpha = 0.63$ (Positive Parenting), $\alpha = 0.68$ (Inconsistent Discipline), $\alpha = 0.61$ (Poor Supervision) (19). The content validity of the APQ was established through an iterative translation process conducted by the researcher and subsequently reviewed by experts until an equivalent and consistent Indonesian version was obtained.

Data Analysis

Data analysis in this study was conducted using univariate analysis to describe the characteristics of the research variables, and multivariate analysis using Ordinal Logistic Regression. The analyses were performed with IBM SPSS Statistics Version 27.

Ethical Considerations

The researcher obtained authorization to conduct this study from the Malang District Health Office, as stated in Letter No. 000.9.2/3943/35.07.302/2025. To ensure the ethical integrity of the research, five fundamental ethical principles were observed: honesty, meaning that all data and findings were reported accurately without manipulation, fabrication, or misleading presentation; informed consent, whereby respondents were fully informed about the study's objectives, procedures, benefits, and potential risks prior to participation, and provided their consent voluntarily; confidentiality and privacy, ensuring that any personal or sensitive information collected was securely protected, used solely for research

purposes, and that respondent identities remained confidential; non-maleficence, indicating that the study was designed and conducted to minimize possible psychological or

social risks to participants; and justice, ensuring that all respondents were treated equitably, without discrimination, and that the benefits and burdens of participation were distributed fairly.

RESULTS

Table 1. Respondent Characteristics

Characteristic	Frequency (n)	Percentage (%)
Gender		
Male	4	5,8
Female	65	94,2
Education Level		
Elementary	9	13,0
Junior	20	29,0
Senior	35	50,7
Diploma/Bachelor/Magister	5	7,2
Marriage Status		
Married	65	94,2
Widow/widower	4	5,8
Number of children		
1 child	35	50,7
2 children	26	37,7
> 2 children	8	11,6
Employment		
Private Sector	22	31,9
Civil Servant	2	2,9
Housewife	39	56,5
Laborer	1	1,4
Unemployed	5	7,2
Residence status		
Home with children	69	100
Relationship with child		
Biological parents	68	98,6
Other family members	1	1,4
Order of child		
First child	42	60,9
2nd child	22	31,9
More than 2nd child	5	7,2
Child gender		
Male	39	56,5
Female	30	43,5

Source: Primary research, 2025

Table 2. Respondent's Age

Mean	Min	Max	Deviation Standard
29,1 years old	22 years old	50 years old	±6,84

Table 3. Frequency Distribution of Knowledge, Parenting Patterns, Experience, and Implementation of Behavioral Management (n=69)

Variable	Frequency (n)	Percentage (%)
Knowledge		
Poor	16	23,2
Moderate	27	39,1
Good	26	37,7
Experience		
Poor	13	18,8
Moderate	27	39,1
Good	29	42,0
Behavioral Management		
Low	10	14,5
Medium	19	27,5
High	21	30,4
Very High	19	27,5

Table 4. Multivariate Analysis

Variabel	β	OR (95% CI)	p-value
Knowledge			
Poor	-1.13	0,32 (0.10-0.96)	0.05
Moderate	-0.85	0,42 (0.16-1.15)	0.09
Good	0	1,00	.
Experience			
Poor	-1.21	0.30 (0.09-1.00)	0.05
Moderate	0.16	1.18(0.45-3.13)	0.73
Good	0	1.00	.

Table 1 shows that the majority of respondents were female (94.2%), with most having a senior high school education (50.7%) and being married (94.2%). More than half of the respondents (50.7%) had one child undergoing treatment, and the majority were housewives (56.5%). All respondents (100%) lived with the child receiving care, and 98.6% were biological parents. Most of the children receiving outpatient care were first-born (60.9%) and predominantly male (56.5%).

Table 2 presents the descriptive statistics of respondents' age. The data indicate that the mean age of respondents was 29.1 years, categorized as young adults. The youngest respondent was 22 years old, while the oldest was 50 years old. The standard deviation (± 6.84 years) suggests a moderate variation in the respondents' ages, indicating that most respondents were within a relatively similar age range.

Table 3 shows that 38.6% of respondents had a moderate level of knowledge and another 39.1%

had a good level of knowledge regarding behavioral management. Furthermore, 42.0% of respondents demonstrated good experience in applying behavioral management. In addition, 30.4% of respondents were able to implement behavioral management at a high level.

The ordinal logistic regression analysis was conducted to test the hypotheses in this study. The ordinal logistic regression test was performed after the assumption tests, which included the model fitting information, likelihood ratio test, Pseudo R², Test of Parallel Lines and the Goodness-of-Fit tests. The results of the logistic regression analysis indicate that the model including predictor variables demonstrated a better fit than the intercept-only model, as evidenced by a reduction in the -2 Log Likelihood from 76.167 to 67.129. The model fitting test yielded a Chi-square value of 9.038 with 4 degrees of freedom and a p-value of 0.060, indicating that the model was not statistically significant at the 0.05 level. The Pseudo R-square values were 0.123 for Cox and Snell, 0.132 for

Nagelkerke, and 0.048 for McFadden, suggesting that the model explained approximately 13.2% of the variance in the dependent variable. The Test of Parallel Lines yielded a significance value of 0.570, which is greater than 0.05, while the Goodness-of-Fit test produced significance values of 0.438 (Pearson) and 0.181 (Deviance). These results indicate that all assumption tests were satisfied, as the obtained significance values were greater than 0.05.

Based on these results, it was concluded that the data met the assumptions required for the use of ordinal logistic regression. The results of this analysis were then used to identify the factors influencing the ordinal categories of the dependent variable. The following table presents the findings of the ordinal logistic regression test.

Table 4 presents the results of an ordinal logistic regression analysis examining the association between knowledge and experience and behavior management as the dependent variable, with the good category used as the reference group. Respondents with poor knowledge had a 68% lower likelihood of demonstrating better behavior management compared with those with good knowledge ($OR = 0.32$; 95% CI: 0.10–0.96; $p = 0.05$), while moderate knowledge showed a similar but statistically non-significant trend ($OR = 0.42$; $p = 0.09$). With respect to experience, respondents with poor experience had a 70% lower likelihood of exhibiting better behavior management ($OR = 0.30$; 95% CI: 0.09–1.00; $p = 0.05$), whereas moderate experience was not significantly associated with behavior management ($OR = 1.18$; $p = 0.73$). Overall, lower levels of knowledge and experience were associated with reduced odds of achieving better behavior management outcomes.

DISCUSSION

The study results indicate that most respondents had moderate to good knowledge of behavioral management, which is a positive finding. This suggests that adequate knowledge can be achieved even among respondents without higher educational attainment. Although previous studies have reported that higher parental education is associated with greater maternal knowledge of child health(20), the present findings indicate that knowledge of behavioral management may also be influenced by factors beyond formal education. In this study, 39.1% respondent had experience caring for two or more children, which may contribute to the

development of practical knowledge through repeated caregiving. Such experiential learning is consistent with prior research indicating that informal caregiving experience can enhance knowledge through “learning by doing” and accumulated personal experience(21).

The results of this study indicate that 98.6% of children were accompanied by their mothers during visits to the pediatric clinic, suggesting that mothers were more frequently involved in direct child caregiving within this study context. This finding may reflect prevailing caregiving arrangements in which mothers are more often responsible for accompanying children to health services. Greater involvement in daily caregiving activities may increase mothers' exposure to child health information and caregiving practices, potentially contributing to higher levels of knowledge. However, gender roles and caregiving perceptions were not directly examined in this study and should therefore be interpreted as contextual explanations rather than empirically tested factors. This interpretation is broadly consistent with previous studies reporting that caregiving involvement is shaped by parental roles and responsibilities in child-rearing (22)

The study results indicate that most respondents reported good experience (42.0%) in applying behavioral management. This may be related to the predominance of respondents in young adulthood, an age group generally characterized by greater openness to new information and easier access to parenting-related resources, particularly through online media. Previous studies have shown that younger parents tend to utilize digital and media-based sources more frequently to obtain information on parenting practices (23), and are more receptive to adopting adaptive parenting strategies aligned with contemporary learning resources (24). In addition, all respondents lived with their children, a condition that may support more frequent interaction and communication, which has been associated with stronger emotional attachment and more effective parenting practices in prior studies (25,26).

The study results show that most respondents demonstrated a high level of behavioral management application. This finding may be related to the fact that the majority of respondents had only one child, which may allow parents to devote more time and attention to caregiving activities. Previous studies have

reported that the presence of siblings, particularly older siblings, may reduce the frequency of parent-child interactions during early childhood, whereas only children tend to have closer parent-child relationships(27,28). However, the number of children was not analyzed as a confounding or mediating factor in this study and should therefore be interpreted as a contextual explanation rather than an empirically tested determinant.

The implementation of behavioral management in parenting may also be influenced by factors beyond the number of children. In this study, most respondents were married, which may provide opportunities for shared emotional and practical support in parenting. Previous studies have reported that marital happiness is positively associated with authoritative parenting styles and negatively associated with authoritarian or harsh parenting practices (29). It should be noted that marital happiness was not included as a measured variable in this study and is discussed solely as a contextual factor.

The findings of this study indicate that most respondents demonstrated good behavioral management during medical procedures, suggesting the presence of adaptive procedure-related coping among children. Effective coping is reflected in calmer behavior, greater cooperation, and reduced resistance during clinical interventions. When children are able to regulate their emotional responses to procedural stressors, procedural experiences are often less distressing and the delivery of care may be more efficient, as psychosocial preparation and coping strategies have been associated with reduced anxiety, better cooperation, and improved procedural success in pediatric settings(30,31). These findings underscore the importance of supporting children's coping capacities as a core component of behavioral management in pediatric healthcare settings.

Preparatory communication prior to medical procedures plays a critical role in shaping children's behavioral responses. Clear, age-appropriate explanations regarding the sequence, purpose, and sensations associated with a procedure help reduce uncertainty and procedural anxiety. Developmentally-appropriate communication of procedural and pain-related information can mitigate procedural distress and support coping in children (32). In the context of this study, favorable behavioral management outcomes may be associated with

effective preparatory communication that enables children to anticipate what will occur and feel more psychologically prepared. Such communication also contributes to trust-building between children, parents, and healthcare providers.

Distraction techniques and play-based approaches are widely recognized as effective behavioral management strategies during pediatric medical procedures. Distraction methods, such as engaging children in conversation, providing toys, audiovisual media, or interactive activities could help redirect attention away from pain or fear-inducing stimuli (33,34), thereby promoting cooperation during procedures. Similarly, play therapy enables children to process medical experiences in a developmentally appropriate manner by symbolically rehearsing procedures, expressing emotions, and gaining a sense of control within unfamiliar clinical environments. Play therapy and therapeutic play interventions have been shown to reduce procedural anxiety and fear in pediatric patients, supporting children's ability to engage with medical experiences by expressing emotions, redirecting attention, and gaining coping skills (35,36). The predominance of good behavioral management observed in this study is consistent with the supportive role of both distraction and play-based interventions in reducing procedural stress, and enhancing emotional regulation.

While play therapy supports children's emotional regulation and sense of control during medical procedures, its effectiveness is enhanced when integrated within a collaborative care approach involving both parents and healthcare staff. Collaboration between parents and healthcare staff is a key factor in successful behavioral management during medical procedures. Parental presence provides emotional reassurance and a sense of security for the child, while coordinated communication with healthcare staff ensures consistency in behavioral support strategies (37,38). The positive behavioral management outcomes observed in this study may reflect effective parent-staff collaboration that aligns caregiving approaches and responds to children's individual needs.

The ordinal logistic regression analysis showed that knowledge was not significantly associated with behavior management during medical procedures ($p = 0.05$). Although respondents

with poor knowledge had lower odds of demonstrating better behavior management compared with those with good knowledge, this association did not reach statistical significance. This finding differs from several previous studies that have reported that parents who possess good cognitive development are more likely to apply positive behavioral management in parenting, effectively regulate their emotions, and demonstrate mature thinking (40). Similarly, a study has shown that education and parenting interventions can enhance parents' behavioral management skill (39). The lack of statistical significance in this study suggests that knowledge alone may be insufficient to influence behavior management outcomes without the support of other contextual or experiential factors.

Similarly, experience was not significantly associated with behavior management. Respondents with poor experience showed lower odds of achieving better behavior management compared with those with good experience, but this relationship did not meet the threshold for statistical significance. While previous research showed that the quality of parenting experience characterized by sensitivity to children's emotional needs, parental self-regulation, and active involvement in children's activities is positively correlated with behavioral management competence (40-42), the present findings indicate that experience may not independently predict behavior management in this study population. These results suggest that behavior management during medical procedures is likely influenced by a combination of factors rather than by experience alone.

The findings suggest that parental behavior management during medical procedures is influenced by more than knowledge and experience alone. Caregiver anxiety may reduce emotional regulation and communication effectiveness, while high anxiety can also be transferred to the child, increasing fear (43). Self-efficacy is another key factor, Parental self-efficacy supports the consistent use of gentle parenting strategies, especially during challenging situations. Gentle parenting combined with parents' coping skills jointly influences children's self-control (44).

Limitation and Future Research

This study has several limitations. Convenience sampling may introduce selection bias and limit

generalizability, while the relatively small sample size may reduce statistical power and contribute to borderline p-values. Nevertheless, this study can serve as a foundation for developing family education programs in hospitals or community health centers aimed at enhancing parents' capacity in child behavioral management. For future research, longitudinal studies are recommended to explore the other influencing factors such as caregiver anxiety and self-efficacy.

CONCLUSION

Low knowledge and experience showed lower odds of higher behavioral management levels; however, associations did not reach conventional statistical significance and require confirmation in larger, controlled studies. Parenting experience should not be assessed solely by the duration of caregiving, but by the quality of interaction, reflection, and learning gained throughout the process. Parents are expected to apply behavioral management strategies in clinical setting based on knowledge and experience to reduce fear and anxiety in children, such as preparatory communication, distraction techniques, play therapy and collaboration with health care staff.

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Author Contribution

MP: Study conception and design, data collection, drafting of the article, critical revision of the article.

IP: Data analysis and interpretation.

Conflict of Interest Disclosure

We certify that there is no actual or potential conflict of interest in relation to this article.

Data Availability Statement

The datasets generated and analyzed during the current study are accessible from the corresponding author upon reasonable request.

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