

Research Article

Healthcare Professionals' Use of Guided Imagery in Combination with Relaxation in Child Health Care: A Pilot Web-Based Survey

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Abstract

Background: The implementation of effective non-pharmacological pain-reducing treatment in child healthcare is considered desirable and an important part of nursing care. The distraction technique Guided Imagery (GI) is easy to use and suitable for children. Training in the technique is required but little is known about factors influencing the further use of the technique in child healthcare.

Objective: The aim of the study was to test an instrument designed to investigate factors influencing the use of GI after receiving training in the technique.

Design: The study was a pilot cross-sectional design.

Setting: The study sample consisted of Swedish healthcare professionals trained in GI.

Participants: Seventy-four healthcare professionals answered the questionnaire.

Methods: A web-based questionnaire analysed factors influencing the frequency of the use of GI.

Results: The results showed three subscales: other's positive attitudes, own perceived competence and others' negative attitudes. The analysis showed positive correlation between one of these subscales and how often the participants used GI, suggesting that own perceived competence influences healthcare professionals' use of GI.

Conclusions and Implications: Although the survey had limited coverage and ought to be repeated, the findings as well as earlier research suggest that both managers and educators need to be aware that own perceived competence in GI can influence the extent of implementation in practice.

Keywords: Child Health Care; Non-Pharmacological Pain Management; Nursing Practice; Training

Introduction

Pain and anxiety are problematic for children when in contact with healthcare, and intervening to decrease these emotions for children is an issue for nurses in child healthcare [1]. Non-pharmacological pain management strategies are recommended but seem to be insufficiently implemented. Organizational factors, high workload and lack of time as well as feeling insecure were found to obstruct the implementation of non-pharmacological methods in paediatric care [2,3].

Nursing interventions encouraging children to be actively involved are preferable [4]. Children themselves appreciate focusing on positive things instead of illness [5] and welcome distraction to decrease procedural anxiety [6]. Imagery is one of children's own pain relief strategies [7].

Guided Imagery (GI) is a distraction technique to help children to

concentrate on positive fantasies instead of uncomfortable sensations [8]. GI has been found to help children with chronic pain [9] postoperative pain [10-12], during vein puncture [13], and repeated painful procedures in cancer treatment [14,15]. Combination of distraction and cognitive behavioural techniques are recommended [16]. Whitaker (2002) Recommend that GI is preceded by relaxation.

With the intention to strengthen pain management in child healthcare in Sweden, healthcare professionals have been offered courses in GI. The training in GI lasted one to two days, combining theory and exercises following [13] as described by Forsner et al. [17]. To investigate the degree of implementation and factors influencing healthcare professionals' use of GI an instrument was designed and tested.

Method

A cross-sectional, web-based survey was performed.

Table 1: Demographic data of the participants.

	(n=74)	
	n	%
Male	2	2.7
Female	72	97.3
Age		
<30	4	5.4
30–40	9	12.1
41–51	26	35.1
>51	34	45.9
Non-responders	1	1.3
<i>Own children</i>		
Yes	57	77.1
No	17	22.9
<i>Own children had received hospital care</i>		
Never	24	32.4
Seldom	33	44.6
A few times a year	12	16.2
Other	5	6.75
<i>Specialised in child health</i>		
Yes	58	78.3
No	16	21.6
<i>Years of experience in healthcare</i>		
0–10	9	12.1
11–20	8	10.8
21–30	21	28.4
>30	35	47.3
Non-responders	1	1.3
<i>Years of experience in child healthcare</i>		
0–10	15	20.2
11–20	16	21.6
21–30	21	28.3
>30	14	18.9
Non-responders	8	10.8
<i>Currently active in child health</i>		
Yes	62	84.9
No	11	15

Participants

Seventy-four healthcare professionals answered the questionnaire; 72 were women, and the mean age was 47.3 years.

Instrument

The questionnaire was inspired by Polkki et al. [3] and consisted of 59 items. Thirty-nine statements addressed factors suggested to influence the practice of GI, such as perceived own competence in GI-specific as well as general pain management, factors related to parent and children, workload and support from managers and colleagues and. Furthermore demographic factors such as age, gender, number of

own children education, training in the method and work experience were addressed. The answers were designed as a Likert scale, and the questionnaire was pre-tested by three nurses experienced in GI.

Procedures

All healthcare professionals who undertook training in GI in Sweden from 2000 to 2009 were approached. An invitation including a web link to the questionnaire was sent out by email to 264 participants, and additionally, 18 participants were invited by ordinary mail. In 70 cases, the message was returned as undeliverable. Three persons declined participation, but most dropouts did not respond at all. After two reminders 74 persons had answered the questionnaire. The survey responses were anonymous and voluntariness was ensured by the required active choice to enter the web link.

Results

Fifty-eight (78.3%) of the respondents were specialists in child healthcare, and 35 (47.3%) of them had worked in healthcare for over 30 years. Fifty-seven participants (77.1%) were parents themselves (Table 1).

GI was most commonly practiced with children between 7 and 16 years of age. Fifty-seven reported offering GI to children between 7 and 12 years, and 46 respondents had addressed GI with children between 13 and 16 years. The participants most often practiced GI for reducing pain and anxiety in peripheral venous cannulation (n=51) and blood test (n=45).

The items in the questionnaire were calculated with a factor analysis that evaluated the construct validity in different subscales (Table 2). To belong to a subscale, each item had to show a correlation value above 0.5 in the analysis. Finally, the questionnaire contained three subscales concerning others' positive attitudes; own perceived competence and others' negative attitudes.

Each subscale was tested for its reliability and was calculated with Cronbach's alpha, resulting in a value of 0.69 accepted in this study.

Factors influencing the use of GI for healthcare professionals who had undergone the training were evaluated. A linear regression analysis compared the subscales with the participants' use of GI; a significance level at $p < 0.05$ was chosen. The variances of use were; never, a few times each year, once a month, and finally, once a week. The linear regression analysis showed that only one subscale, i.e. own perceived competence, influenced respondents use of GI.

Discussion

In this test of a questionnaire designed to evaluate HCP's use of GI others' positive respectively negative attitudes and own perceived competence came up as sub scales. This is in line with findings in [2] as well as [3] showing organizational factors such as lack of time to hinder the use of GI and other non-pharmacological methods in child healthcare. In the current study own perceived competence was the only factor actually influencing the use of GI, yet others' positive and negative attitudes came up as subscales in the analysis, and the impact of these as well as organizational factors ought to be further investigated.

The survey additionally yielded information about how GI was practiced. GI was most commonly used with children between 7

Table 2: Results of the factor analysis, the Cronbach's alpha analysis, and the linear regression analysis.

	Factor			α-value	p-value
	1	2	3		
Others' positive attitudes					
Managers who are engaged in interventions like GI promote my practice of the method	0.893			0.83	0.28
A positive attitude to GI by other professionals promotes my practice of the method	0.809				
A positive attitude to GI by my colleagues promotes my practice of the method	0.641				
A positive attitude to GI by doctors promotes my practice of the method	0.626				
A positive attitude to GI by parents promotes my practice of the method	0.662				
Own perceived competence					
My knowledge of GI is not sufficient for me to use the method		0.710		0.69	0.04*
I have good experience in using GI		0.608			
My negative experience with GI hinder me from using the method		0.635			
Others' negative attitudes					
A negative attitude to GI by my colleagues hinders my practice of the method			0.755	0.73	0.33
A negative attitude to GI by other professionals hinders my practice of the method			0.696		
Due to cooperation difficulty with the parents, I have difficulty using GI			0.549		

and 16 years of age, sometimes with older children but very seldom to children younger than four years of age. Indications for GI were mostly pain and anxiety related to procedures, mostly peripheral venous cannulation and blood tests. Additionally, difficulty falling asleep, lumbar puncture and visits to the dentist were mentioned by participants as scenarios where GI might be used. This is in line with earlier studies [8-13].

The education in GI consisted of a short course combining theory and exercises and then returned to clinical practice. This is in line with [18] who similarly gave a brief training program in paediatric pain management, including a short didactic information session, slides and handouts. However, in contrast to the training provided to the participants in this survey, Mac Laren et al (2008) additionally included homework assignments in the program.

A factor analysis evaluated the construct validity of items in the questionnaire, resulting in three subscales. These were tested for reliability and calculated with Cronbach's alpha. An alpha value should be above 0.7, but in this study a value of 0.69 was accepted [19]. A linear regression analysis on the three subscales gave information about one factor actually influencing the use of GI for these healthcare providers. This result confirmed a statistical significance, that is, $p < 0.05$. However the poor response rate provided a data set too small to be sure about the analysis provided, and generalizability to child healthcare in general is limited; therefore, the instrument should be further validated. Yet, a poor response rate is not uncommon in web-based surveys, exemplified by [20]. One of the contributing explanations in this pilot study may be that the request was sent out through email addresses declared many years ago, which probably obstructed the reachability. In future studies more accurate means will be used when contacting participants.

Conclusion

In conclusion, the questionnaire was considered valid for investigating factors influencing nurses' use of GI in child healthcare, and this pilot study indicates own perceived competence as one important factor. Since the survey had limited coverage, the

instrument needs to be evaluated further and the survey repeated, to confirm the results. However, given that earlier research supports the current findings, it may be reasonable to claim that nurse's own perceived competence in the technique might influence the extent of implementation of GI in practice. Thus, we suggest that both managers and educators should be aware that implementation of GI might benefit from providing extra support to promote confidence with the technique. Support provided in groups with follow-up sessions with nurses more and less experienced in GI could be a productive solution.

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