Table 1. Results search

No	Authors, titles, publications date	Problem	Purpose	Population/ Sample, Setting	Method (Design, instruments, data collection method, data analysis)	Major Findings / conclusion Key findings/ themes
1	Guzide Ugucu, Derya Akdeniz Uysal, Ozlem Guzel Polat, Zuhal Artuvan, Didem Polat Kulcu, Done Aksu, Melek Gulgun Altintas, Hacer Cetin, Gulhan Orekici Temel. Effects of cartoon watching and bubble-blowing during venipuncture on pain, fear, and anxiety in children aged 6–	There is a lack of evidence from the literature comparing the techniques of watching cartoons and blowing up balloons in reducing levels of pain, fear and anxiety in children aged 6-8 years.	Compare the effects of blowing techniques bubbles (active distraction) and watching cartoons (passive distraction) against pain , anxiety, and fear during venipuncture in children aged 6-8 years	**Population:** 56 child aged 6-8 Sample : 56 children divided into two groups, namely Group bubble: 28 Group cartoon: 24 **Criteria inclusion:** Age 6-8 year Requires/plans a venipuncture **Criteria exclusion:** Own disease chronic Have mental/sensory disabilities Own mental illness Use analgesics/ sedatives in the last 24 hours before the procedure	**Design:** parallel-group randomized trial (RCT). **Setting:** research carried out in the action room invasive children at a university hospital in Turkey's eastern Mediterranean region from the month of October 2019- March 2020 **Instrument:** using the Wong-Bakers FACES pain assessment scale (WB-FACES) to assess pain, The Children's State Anxiety Scale (CSA) to assess anxiety, The	Pain , anxiety, and fear scores during the procedure and after the procedure were lower in the cartoon watching group (passive distraction) compared to the blowing group bubbles (active distraction)

pain
t (47)=2.638, p
=0.013;
worry
t (47)=2.358,
p =0.023; and fear t
(47)=2.784, p
=0.008). Effect from
watching cartoons
reported

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	8 years: A randomized experimental study March 30, 2022 (Ugucu et al., 2022a)				children's Fear Scale (CFS) to assess fear in children. Assessment reported by children, parents and researchers. **Data analysis** use test Chi-square and independent samples t-test	by children, parents and caregivers with scores during the intervention (children, parents, researchers: 3.91 ±3.09, 3.08 ± 2.04, 4.16 ±2.56), after intervention (91 ± 3.09, 3.08±2.04, 4.16±2.56). Effect size of watching cartoons during procedure is 0.619, 1,413, And 0.814, while the effect after the procedure was 0.646, 0.996, And 0.888
2	Piera Bergomi, Luigia Scudeller, Serena Pintaldi,	Attention diversion techniques current child	Evaluating two non-pharmacological interventions, that is vibration Which	**Population:** 160 child age 5-12 year **Sample:** 152 child Sample shared in a way random divided into 4 groups	**Design:** Randomized Controlled Trial (RCT).	Children's perception of pain is greater low on group

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	Alberto Dal Molin.

Efficacy of Non-pharmacological Methods of Pain Management in Children Undergoing Venipuncture in a Pediatric Outpatient Clinic: A Randomized Controlled Trial of Audiovisual Distraction and External Cold and Vibration
21 April 2018 | done venipuncture is still conflicting between active and passive distraction, pain control mechanis ms achieved with technique distraction is still unclear | combined with topical anlgesia from the Buzzy device and distraction using animated cartoons for Reduces pain during venipuncture | 38 child group Buzzy
37 children in the group watched cartoons
38 child group Buzzy and watching cartoons
39 child group control.
Criteria inclusion:
Child age 5-12 years
Planned will receive a venipuncture procedure
Can speak Italian
Criteria exclusion: No explained | **Setting:**
Northern Italy Hospital pediatric ward, from the moon October 2013-January 2014
Research instrument:
use Wong-Baker Faces Pain rating scale (WBFP) for child's perception against pain, WBFP and Children's Emotional Manifestation Scale (CEMS) for assessing nurses' and parents' perceptions of the pain that children feel, Numeric Ratings Scale (NRS) to assess level | nonpharmacological intervention compared to control. The animated cartoon

intervention was

statistically significant in reducing perception painful in children

(p=0.02),

Buzzy Intervention was effective in children under 9 years of age (p=0.04). Nurses' perceptions

of

children's pain, |

watching cartoons and Buzzy are effective reduced pain (p = 0.04),

but regarding

parental perception

,
intervention Buzzy is more effective lower painful

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	(Bergomi et al., 2018)				parental anxiety . **Data analysis :** using Stata computer software version 13.0, Descriptive statistics for demographic, clinical and laboratory characteristics. Continuous variables as standard means deviation (SD). For categorical variables, counts and percentages are displayed. categorical variables was carried out using the Pearson's X test (as well as the Fisher exact test)	child (p =0.02). In particular, animated cartoon distractions were superior in terms of perception painful in children compared to Buzzy, a combination of cartoon+Buzzy. Non- pharmacological methods (passive distraction) are effective reduce pain in children undergoing venipuncture

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					with mark $p < 0.05$ is considered statistically significant	
3	Demet Inangil, Merdiye Alone, Funda Büyükyılmaz Efficacy of Cartoons Viewing Devices During Phlebotomy in Children: A Randomized Controlled Trial Year 2020 (İnangil et al., 2020a)	Several literatures have discussed negative effects of technology on children's social development , but in reality technology-based equipment attracts the attention of people of all ages including children. Distraction based audio visual	cartoon watching devices using Virtual Reality (VR) or Tablets in children undergoing venipuncture .	**Population:** 120 child age 7-12 years **Sample:** 120 child shared in 3 groups in amount Which The same: 40 group VR 40 group Tablet 40 group control **Criteria inclusion:** Aged 7-12 years The planned child gets action venipuncture Do not experience acute pain or anxiety during the procedure Do not experience audiovisual disorders, cognitive sensitivitis, or severe physical disabilities Able to communicate verbally **Criteria exclusion:**	**Design:** Prospective RCT **Settings:** study This was carried out in the Biochemistry laboratory of a private university hospital in Turkey between September 2017 until April 2018 **Instruments:** to measure pain levels using WB-FACES, to measure fear using CFS Data **analysis** Analysis using SPSS 21.0. data nonparametric	According to the child's report, the WB- FBRS score was significant more higher in the control and tablet groups compared VR at the time of venipuncture p<0.01. There was no significant difference between the Tablet group and the control group in terms of WB-FBRS scores according to parent and observer reports :p>0.05. According to the child, score CFS in a way

No	Authors, title, publication date	Problem	Purpose	Population/ Sampel, Setting	Method (Design, instruments, data collection method, data analysis)	Major Findings / conclusions Key findings/ themes
		seperti video kamera, slide tape presentation, film, program televisis, computer dan tablet terbukti efektif dalam mengurangi rasa nyeri, meningkatkan kerjasama anak yang berakibat berhasilnya prosedur yang menggunakan jarum suntik Penelitian tentang keefektifan distraksi audiovisual		• Sayatan atau jaringan parut di area lengan bawah • Memiliki penyakit bawaan, genetik, gangguan perkembangan, atau neurologis • Masalah pemberian makan atau hidrasi masalah integritas kulit • Gerakan involunter di lokasi vena pungsi	dianalisis menggunakan X^2 test data intensitas nyeri dan tingkat cemas di komparasi menggunakan Kruskal-Wallis untuk 3 kelompok (anak, orang tua dan observer), dan *t test* digunakan untuk kelompok berpasangan (orang tua dan observer). Hubungan antara skor rata-rata ditentukan oleh korelasi Pearson dengan nilai signifikansi yang diterima dimana $p< 0,05$	signifikan lebih tinggi pada kelompok kontrol dan tablet dibanding kelompok VR pada saat vena pungsi $p<0,001$. Dengan demikian menonton melalui VR lebih efektif dibandingkan dengan menonton melalui Tablet pada saat tindakan vena pungsi.

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4	Ayfer Karakaya, Duygu Gozen. The Effect of Distraction on Pain Level Felt by School-aged Children During Venipuncture Procedure— Randomized Controlled Trial 25 August 2016 (Karakaya & Gozen, 2016)	Consequential pain venipuncture experienced by the child reported as an experience learned and will be remembered until old age . Apart from pain , effect from venipuncture will make the child afraid. These two effects if not	This study aims to determine the effect of distraction techniques using a kaleidoscope on pain levels in children undergoing venipuncture .	**Population:** 218 children aged 7-12 years **Sample:** 144 child, shared into the 2 groups, namely 72 children in the experimental group and 72 children in the control group **Criteria Inclusions:** The child has not had a venipuncture in the last 6 months for any reason Do not experience pain before venipuncture Do not take analgesic drugs in 6 O'clock previously Temperature bdana between 36.5-37.1ºC Agree follow as well as in study **Criteria exclusion:** Had blood drawn in the last 6 months Experience painful Temperature body more from 37.2º No agree follow study	**Design:** RCT **Setting:** research conducted in retrieval room blood samples from children at training hospitals and research between February and May 2012 **Instrument:** Complaint painful measured using Faces Pain Scale Revised (FPS- R), pulse oximetry, non-contact thermometer and kaleidoscope. **Data analysis:** using SPSS licensed IBM for windows 21 and Sigmastat 3.5. Chi-Square test used to compare	n't any statistically significant differences Which found in the characteristics of the participants between the two groups. There is n't any significant differences between age , gender on pain levels. Average level painful perceived by the intervention group was 1.80 ± 1.84, lower than the control group , namely 3.27 ± 2.87 and there are

handled properly

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there will be a
reaction negative
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children
become
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tive

significant
differences
between

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		in maintenance procedures.			frequency and percentages between groups, one-way analysis of variance was used for independent groups. Data fit to distribution Normal was assessed by the Shapiro-Wilk test. Mann-Whitney U test used for comparison of variables that are not normally distributed. Analysis Two-way repeated measures ANOVA was used to assess the measurements repeated, with significance assessed at the $p < 0.05$ level	intervention group and control group ($p = 0.001$)

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5	Fatma Kurudirek, Zeynep Demir İmamoğlu, Sümeyye Ekici The Effects of a Musical Toy on Preschool Children's Pain and Anxiety During Blood Collection 08 September 2023 (Kurudirek et al., 2023)	Therapeutic games to reduce pain and anxiety in children, aim for recovery physical and emotional. This game must be adapted to the child's age and cognitive development . But research which proves the effectiveness of the game therapeutic in children age pre	Examining the effects of toys Which can light up and make music for the pain and anxiety caused by venipuncture in preschool children	**Population:** 100 child **Sample:** 95 children divided into 2 intervention groups (48) and control (47). **Criteria inclusion:** Child age 4-6 years No visual impairment, hearing, mental, or neurological No currently fever There was no history of using sedatives, analgesics, or narcotics within 24 hours No own disease chronic **Criteria exclusion:** No explained	**Design:** RCT **Setting:** research is conducted in outpatient clinic intake room blood samples at a government hospital in Turkey from July 1 to August 1 2022 **Instrument:** data collected using the family information formula And child, WB-FAS, and Child Fear and Anxiety Inventory (CFAI). **Analysis data:** all statistical analyzes used SPSS version 22.0. data conformity with	Participant characteristics on both groups were similar p > 0.05. During the procedure carrying out musical and lighted toys significantly reduces child's pain level. Score painful average child on the experimental group (1.42 ± 1.05) was lower and statistically significant than the control (2.81±1.23) (p < 0.001). During the scale averaging procedure afraid And worry

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		school still little is done, especially musical and light-up toys.			normally checked with test Kolmogorov- Smirnov. Percentage distribution, mean, SD, chi-square, test sample t- test independent, 1-way analysis of variance used to analyze data. Invention evaluated at confidence intervals 95% and with a significance level of p <0.05	child on experimental group (1.21 ± 0.97) lower than the control group (2.72 ± 1.10) and statistically significant p < 0.001.
6	Aydin dealer, Nejla Canbulat Sahiner. Effects of music therapy and distraction cards on pain relief during	The phlebotomy action is a source of taste pain and anxiety for children. There are many ways done	To research effectiveness distraction methods (distraction cards, listening to music and cards distraction+music) in lowering painful	**Population:** 3 **Sample:** 200 children aged 7-12 years, divided into 4 groups: music (50), distraction cards (50), music+distraction cards (50), control (50) **Inclusion criteria:** Children aged 7-12 years who will undergo phlebotomy	**Design:** RCT **Setting:** phlebotomy room at Bandirma Hospital, Turkey **. Instruments:** Child assessment form And family	Distraction using d r a w i n g card , music and combination of distraction cards + music during the phlebotomy process

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	phlebotomy in children 19 November 2016 (Aydin & Sahiner, 2017)	to reduce pain and anxiety in children such as cognitive/ behavioral techniques , therapy non-pharmacological and physical supportive techniques such as watching videos, reading book, adjust position, accompanied by family during actions and so on.	and anxiety in children undergoing phlebotomy	**Criteria exclusion** Suffering from neurodevelopmental disorders Has speech, hearing and vision problems Do not take painkillers at least 6 hours before the procedure Has no history of fainting when taking blood samples Children who will not undergo phlebotomy	Wong-Baker FACES pain scale) Children's fear scale (CFS) Card distraction Personal tablet Data **analysis** : using SPSS version 21.0. group characteristics and parametric data analyzed using the chi-square test and student's t-test. Statistical significance was set at p<0.05	(reduces pain and worry but the result not significantly different statistics. n't any Significant differences were found between procedural pain levels reported by children, health workers and parents (p = 0.72, p = 0.23, p = 0.15). Likewise, with anxiety levels, no significant differences were reported

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						parents and observers (p = 0.092, p = 0.096) Therapy music and cards Distractions used together have no effect on pain and anxiety experienced child. However, the effect of music and distraction cards observed during short-term painful procedures such as phlebotomy and access Vascular must be supported through study more evidence-based.

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7	Remziye Semerci, Look Akgün Kostak. The Efficacy of Distraction Cards and Kaleidoscope for Reducing Pain During Phlebotomy: A Randomized Controlled Trial 2020 (Semerci & Akgün Kostak, 2020)	Flavor Sick and stress experienced as a child as a result procedures using needles can continue until mature. This will cause reluctance towards the procedure medical care, and distrust of health workers. Role nurse is	For determine the effectiveness of the switch card attention and deep kaleidoscope reduces pain when taking samples blood in children aged 6-12 years.	**Population:** 90 aged child 6-12 years **Sample:** 90 children divided into 3 groups, distraction cards (30), kaleidoscope (30) And control (30). **Criteria inclusion:** Children aged 6-12 years who require blood tests do not have neurological development disorders , speech, hearing or vision problems. No consume analgesic 24 hours before the action Has no history of fainting when blood is drawn **Criteria exclusion:** No explained	**Design:** RCT **Setting:** the research was conducted at Trakya University Hospital in Türkiye from date 15 September 2016 until January 15 2017. **Instrument:** survey form , Visual Analog Scale (VAS), kaleidoscope and distraction cards . **Data analysis :** using SPSS program for Windows version 19. Descriptive statistics were used For analyze groups. A number of	There is significant difference between the control group and the intervention group (either distraction card and kaleidoscope groups), with a p value <0.001. Mean pain scores in the distraction card group compared to kaleidoscope there is no significant difference p > 0.05

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		give atraumatic care in children,

Wrong One method which can used is technique distraction. Good Technique active distraction

or passive there have been many done, However its effectiveness in children in Türkiye Still A little done. | | | characteristics including average , Standard Deviation (elementary school), frequency And percentage. X^2, Kruskal-Wallis, And Wilcoxon test used for parameter inter- comparison

group who does not distributed normal.

Post hoc Dunnet two- sided and Tamhane test used because variables don't homogeneous. Results evaluated with intervals trust 95%, $p < 0.05$ considered significant. | |
| 8 | Mehmet Alperen Turgut a, Ayşe Sonay Türkmen | Phlebotomy is a procedure | Know the effects of lighted toys | **Population:** 120 child age 3-6 years | **Design:** RCT **Setting:** home phlebotomy unit | Toy Which can turn on effectively lower flavor |

No	Authors, titles, publications date	Problem	Purpose	Population/ Sample, Setting	Method (Design, instruments, data collection method, data analysis)	Major Findings / conclusion Key findings/ themes
	The effect of lighted toy on reducing pain and fear during blood collection in children between 3 and 6 years: A randomized controls trials February 21 2023 (Turgut & Turkmen, 2023)	the most feared invasive especially children. This is because this action can cause fear and pain, especially in young children . An easy way is needed , cheap, and efficient way to handle the problem, one of them with toys can light up.	in reduce pain and afraid moment sampling blood	**Sample:** 116 children divided into 2 groups, distraction (58), and control (58) **Criteria inclusion:** No explained **Criteria exclusion** Children who are unable to communicate Has hearing, speech and vision disorders The child has a long-standing infection Have not taken analgesic medication in the last 6 hours Having problems Health that influences children's perception of pain	Sick child X in Türkiye between 1 September until 31 October 2019 **Instrument:** inquiry form , CFS, WB-FACES, and toys that light up **Data analysis:** it is not explained how the data was analyzed	painful And flavor Afraid on that child undergoing veins puncture $p < 0.05$

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9	Aylin Arıkan, Figen Is¸ık Esenay. Active and passive distraction interventions in a pediatric emergency department to reduce the pain and anxiety during venous blood sampling: randomized clinical trial July 22, 2020 (Arıkan & Esenay, 2020)	Taking blood samples is a source of fear in children which can turn into an unpleasant experience . Approach non-pharmacological such as distractio n techniques has done a lot. However, no one has compared the technique s distraction active	Understand the effects of 2 distraction techniques, that is distraction active in the form of wooden toys that can be rotated, and distraction passive in the form of a toy bracelet Which can make musical sounds against pain , fear and anxiety in moment the act of taking a venous blood sample .	**Population:** 216 child age 6-12 year **Sample:** 216 child Divided into 3 groups, active distraction group (72), passive distraction group (72), and control group **Criteria inclusion** Child age 6-12 years Children and parents can speak Turkish Have no mental or physical disabilities Do not take analgesics or sedatives 24 hours before the procedure No fever Sample blood taken First time **Criteria exclusion:** No explained	**Design:** RCT **Setting:** research is conducted in Hospital pediatric emergency room Mother And Dr. Sami Ulus Ankara Turkey **Instruments:** introductory form information, VAS, WB-FACES, CFS **Data analysis :** analysis using SPSS version 24.0 and analyzed using distribution percentage, mean, SD, and maximum and minimum values. T- test used to compare data distributed normal, test chi-	There is significant difference in the means score WB-FACES pain between the control group and the group active distraction before blood sampling . Group active distraction has a level of pain Lowest compared to passive distraction and control. There is a difference which is statistically significant VAS pain scores of all

groups
which was measured
during

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			with distraction technique passive		square and Fisher exact tests were used to analyze differences demographics in the three groups. Analysis of variance used to test difference between scores average pain and anxiety in the control group and intervention, and analysis advanced post hoc (Benferroni) was used to make binary comparisons between groups. value <0.05 was considered significant.	blood sampling . Active ditraction group own that value most low compared to distractions passive and control p <0.05. There is statistically significant differences between The average CFS score of the control group and intervention group at the time of the procedure was p<0.05. group Active distraction has the lowest level of anxiety followed distraction passive and control.

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10	Ozlem Akarsu, Remziye Semerci, Derya Kılınç. The Effect of 2 Different Distraction Methods on Pain, Fear, and Anxiety Levels During Venous Blood Draw in Children in a Pediatric Emergency Unit A Randomized Controlled Study 14 March 2023 (Akarsu et al., 2023)	Procedure Venipuncture is a procedure The most common invasive treatment performed in the emergency department . These actions can cause pain , fear and anxiety in the pediatric population . Failure of staff to recognize interventions such as pain, fear, and anxiety can	Compare effects watch good cartoons with method VR or through tablets against pain , flavor fear, and anxiety during vein procedures puncture in children	**Population:** 159 child **Sample:** 159 children divided into three groups, namely the VR group (n=53), tablet (n=53), And control group (n=53) **Criteria Inclusions:** Old child 5-12 years Have no chronic or mental health problems Do not have visual or hearing disabilities Do not use sedatives or analgesics within 6 hours before the intervention No suffer painful chronic and fever Get inside yellow area according to the triage system **Criteria exclusion:** Refused to participate in follow up Treated in areas red or green according to the triage system	**Design:** RCT **Setting:** done in the emergency unit pediatric emergency training and research hospital in Turkey **Instrument:** in this research use 4 instruments namely information forms , WB-FACES, CFS, and (CAM-S) Data **Analysis** :WBFPS data analysis using statistics IBM SPSS 28. Normality of variables is evaluated with the Shapiro- Wilk test. Descriptive statistical method (percentage, mean, and SD). Kruskal-Wallis test And	There is significant differences between groups based on WBFPS scores reported by children, parents and caregivers. The VR group has mean :WBFPS was lower compared with the tablet group (p < 0.001). Mark average most CFS scores low on group VR compared with tablet group p < 0.001. Likewise value

mean CAM-S score on VR

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		hinder the implementation of preventive and therapeutic intervention approaches			Pearson X² used to compare descriptive characteristics of children. Kruskal-Wallis and Mann-Whitney U tests with Bonferroni correction Also used. Data is analyzed using ranges 95% confidence And mark $p < 0.05$ was accepted as significant threshold	lower than the tablet group $p < 0.001$.

Table 2: Technique distraction passive

Type Ditraction Passive used	Source
Watch cartoon	(Akarsu et al., 2023; Bergomi et al., 2018; Inangil et al., 2020b; Ugucu et al., 2022a)
Listen music	(Arkan & Esenay, 2020; Aydin & Sahiner, 2017; Kurudirek et al., 2023)
Kaleidoscope	(Karakaya & Gozen, 2016; Semerci & Akgün Kostak, 2020)