

## **Information needs of children having a radiology technique: Imaging Centers**

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# Background

## patient empowerment

health care systems are seeking to find ways to promote self-care, patient empowerment and informed decision-making



# Background

## health information content

Production of health information content is considered an important tool for improving the health literacy of patients.



# Background

## health information need

Children often have unmet informational needs when attending diagnostic and treatment centers, which may cause anxiety



# Background

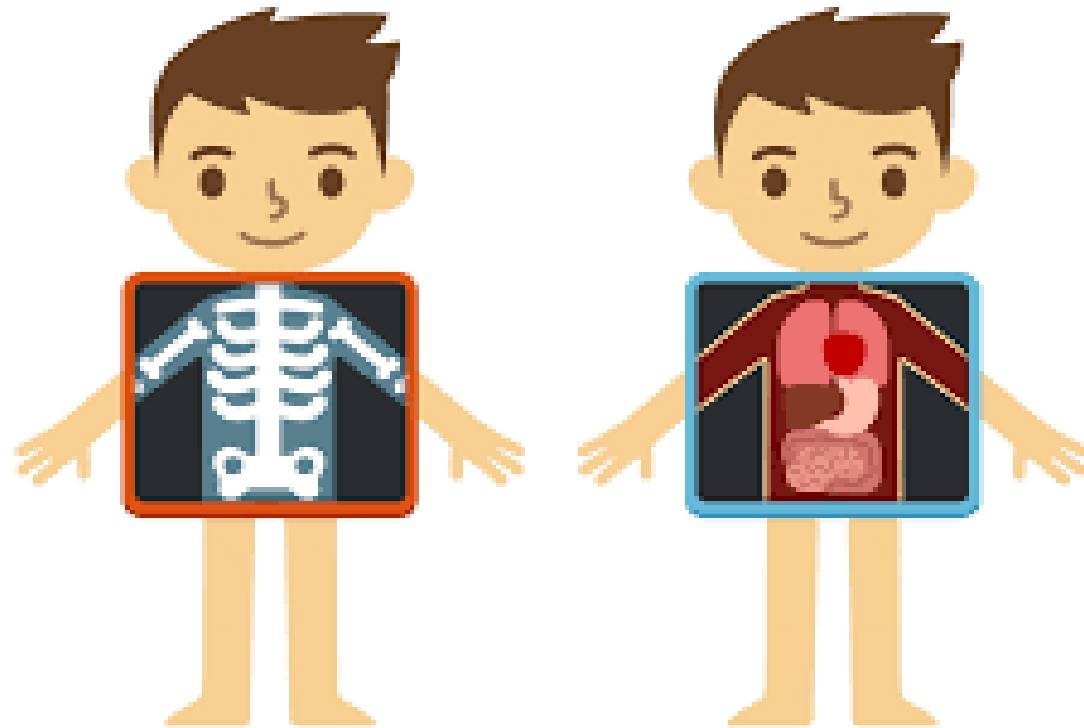
## Pediatric Imaging

children of different ages have distinctive limitations and challenges that affect therapeutic and diagnostic processes, including pediatric imaging techniques



# Objective

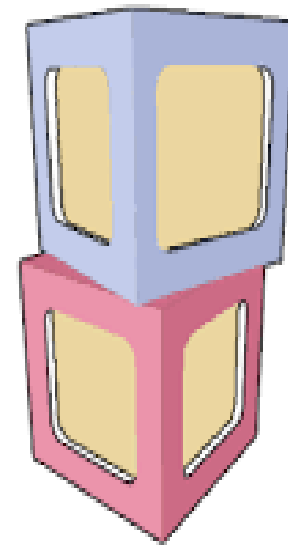
to examine the components of children's health information in radiology centers in order to explore information need of children.





# Methods

- qualitative exploratory case study
- 25 children aged 6-14 years, 25 parents of 0-14 years old children referring to the Imaging Department at Children's Medical Center Hospital (Tehran, Iran), and 23 radiology technicians and doctors working in the center were interviewed.



Pediatric  
Tools



# Methods

**Table 1: Inclusion criteria**

Inclusion criteria for children	Inclusion criteria for parents	Inclusion criteria for staffs (radiology technicians and doctors)
<ul style="list-style-type: none"> <li>- Not having a history of imaging</li> <li>- Being able to speak and understand</li> <li>- Being developmentally and intellectually healthy</li> <li>- Speaking in Farsi language and being Iranian</li> <li>- Aged 6-14 years</li> </ul>	<ul style="list-style-type: none"> <li>- Having a 0-14 years old child, who is developmentally and intellectually healthy</li> <li>- Being able to speak and understand</li> <li>- Speaking in Farsi language and being Iranian</li> </ul>	<ul style="list-style-type: none"> <li>- Being employed in the relevant department</li> <li>- Having direct communication with the patient</li> <li>- Being the attending physician, including pediatrician or child neurologist, and the requester of imaging process</li> <li>- Working in the department as staffs, who are the first people that children encounter as soon as they enter the imaging department</li> <li>- Being radiology technicians as people who are directly in contact with the child during the imaging process</li> <li>- Being radiology specialists, who are effective in carrying out some imaging processes with the child and making decisions about the imaging process</li> <li>- Willing to participate in the study</li> </ul>





# Result

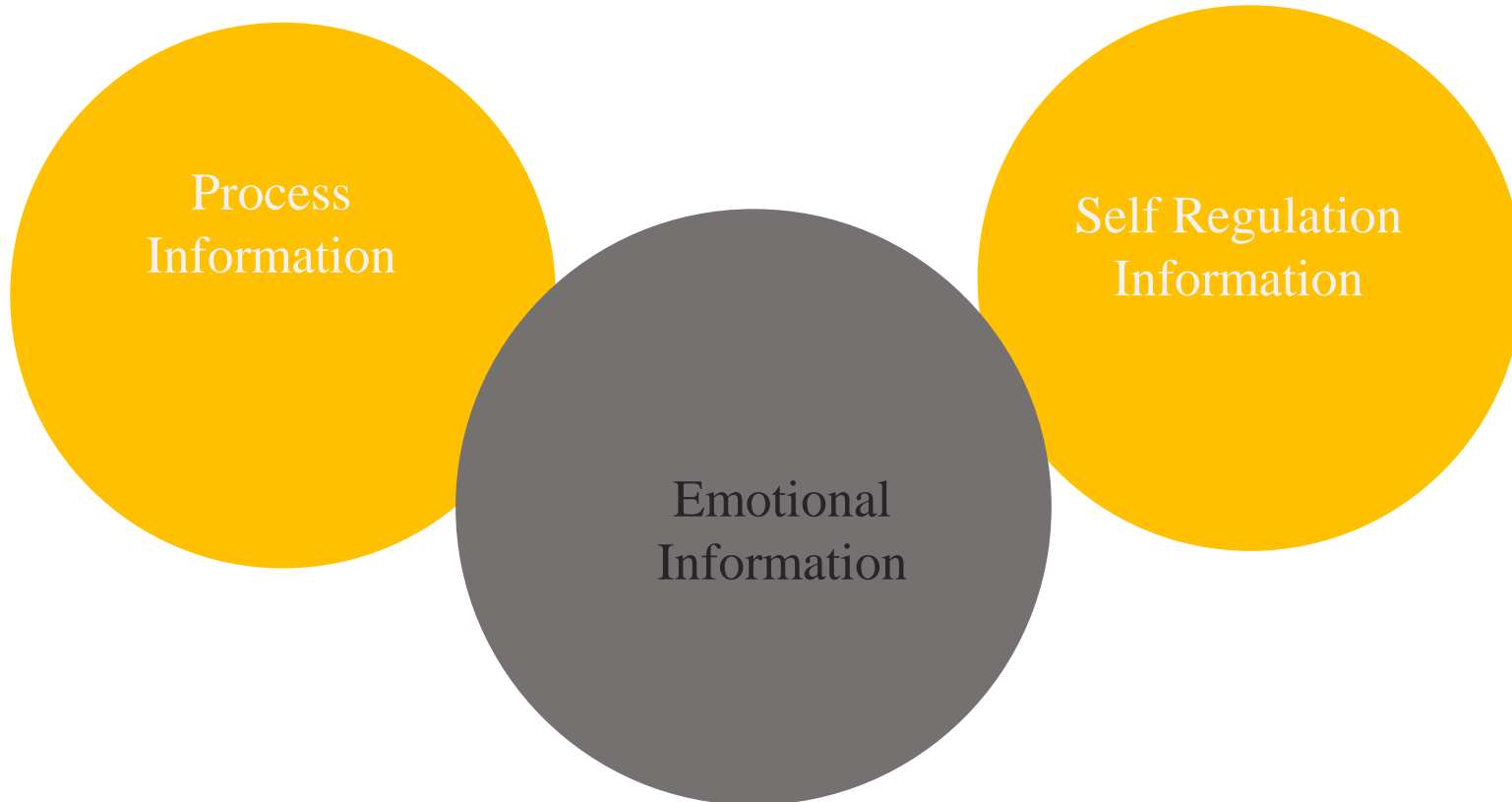
**Table 2: Demographic characteristics of the interviewees in the imaging department**

Population	Children	Parents	Staffs (radiology technicians and doctors)
Type of examination			
M.R.I	5	7	5
C.T Scan	5	3	5
Radiography	7	3	5
Ultrasound	5	7	3
Fluoroscopy	3	5	5



# Result

## Health Information content





# Conclusion

This study has identified three types of information that children recognize as important in imaging centers, which can help produce health information content based on children's needs, and can also serve as a suitable platform for transferring information to them in imaging centers.



Thank You



## REFERECES:

- Abuzaid, M. M., Alnuaimi, A. M., Abdi, A. M., Mohajer, E. A., Mohamed, I. A., Bilwani, R. A., & Alhammadi, S. B. (2016). Developing and testing an electronic literacy resource for Arab patients before experiencing radiology procedures. *J Egypt Public Health Assoc*, *91*(3), 109-114. <https://doi.org/10.1097/01.EPX.0000489883.20641.5b>
- Baron, M., Joslin, S., Kim, J. S., Shet, N. S., Pocta, B., & Olivi, P. (2016). Enhancing the Imaging Experience for Pediatric Patients. *Radiol Manage*, *38*(3), 31-34, 36; quiz 37 .
- Boutis, K., Cogollo, W., Fischer, J., Freedman, S. B., Ben David, G., & Thomas, K. E. (2013). Parental knowledge of potential cancer risks from exposure to computed tomography. *Pediatrics*, *132*(2), 305-311 .
- Bray, L., Appleton, V., & Sharpe, A. (2019). The information needs of children having clinical procedures in hospital: Will it hurt? Will I feel scared? What can I do to stay calm? *Child: Care, Health and Development*, *45*(5), 737-743 .
- Donnelly, L. F. (2021). *Fundamentals of pediatric imaging*. Academic Press .
- Eisenhardt, K. M. (1989). Building theories from case study research. *Academy of Management Review*, *14*(4), 532-550 .
- Fegley, B. J. (1988). Preparing children for radiologic procedures: contingent versus noncontingent instruction. *Research in Nursing & Health*, *11*(1), 3-9 .
- Gebhard, R. D., Goske, M. J., Salisbury, S. R., Leopard, A. C., & Hater, D. M. (2015). Improving Health Literacy: Use of an Informational Brochure Improves Parents' Understanding of Their Child's Fluoroscopic Examination. *American Journal of Roentgenology*, *204*(1), W95-W103 .
- Hartwig, H.-D. R., Clingenpeel, J., Perkins, A. M., Rose, W., & Abdullah-Anyiwo, J. (2013). Parental knowledge of radiation exposure in medical imaging used in the pediatric emergency department. *Pediatric Emergency Care*, *29*(6), 705-709 .

## REFERECES:

- Johnson, A. J., Steele, J., Russell, G. B., Moran, R., Fredericks, K. P., & Jennings, S. G. (2009). Decreasing pediatric patient anxiety about radiology imaging tests: prospective evaluation of an educational intervention. *Journal of Child Health Care, 13*(4), 370-382 .
- Jończyk-Potoczna, K., Pucher, B., Strzelczuk-Judka, L., Buraczyńska-Andrzejewska, B., Więckowska, B., Krauss, H., Biliński, P., & Wojtyła-Buciora, P. (2019). The awareness of caregivers about their children's exposure to ionizing radiation accompanying medical procedures: the assessment study. *International Journal of Occupational Medicine and Environmental Health, 32*(1), 65-73 .
- khosravi, A., Mosavinezhad, S., Borazjani, F., & Basirian, R. (2016). Assessing the Quality of Nutrition & Diet Therapy Websites according to Appearance and Content Criteria *Hums-Jmis, 2*(1), 11-20. <http://jmis.hums.ac.ir/article-1-63-en.html>
- Larson ,D. B., Rader, S. B., Forman, H. P., & Fenton, L. Z. (2007). Informing parents about CT radiation exposure in children: it's OK to tell them. *American Journal of Roentgenology, 189*(2), 271-275 .
- Mea, R. G. (2011). *Pause and Pulse: Image Gently in Fluoroscopy*. <https://www.imagegently.org/Procedures/Fluoroscopy/Pause-and-Pulse-Resources2011>
- Morel, B., Andersson, F., Samalbide, M., Binninger, G., Carpentier, E., Sirinelli, D., & Cottier, J.-P. (2020). Impact on child and parent anxiety level of a teddy bear-scale mock magnetic resonance scanner. *Pediatr Radio, 50*(1), 116-120 .
- Murphy, J. (2017). Patient information comes of age. In (Vol. 34, pp. 290-292): Wiley Online Library.
- Oikarinen, H. T., Perttu, A. M., Mahajan, H. M., Ukkola, L. H., Tervonen, O .A., Jussila, A. I., & Henner, A. O. (2019). Parents' received and expected information about their child's radiation exposure during radiographic examinations. *Pediatr Radiol, 49*(2), 155-161. <https://doi.org/10.1007/s00247-018-4300-z>

## REFERECES:

- Oztek, M. A., Noda ,S., Beauchemin, E. A., & Otto, R. K. (2020). Gentle touch: noninvasive approaches to improve patient comfort and cooperation for pediatric imaging. *Topics in Magnetic Resonance Imaging, 29*(4), 187-195 .
- Pahade, J. K., Trout, A. T., Zhang, B., Bhambhvani ,P., Muse, V. V., Delaney, L. R., Zucker, E. J., Pandharipande, P. V., Brink, J. A., & Goske, M. J. (2018). What Patients Want to Know about Imaging Examinations: A Multiinstitutional U.S. Survey in Adult and Pediatric Teaching Hospitals on Patient Preferences for Receiving Information before Radiologic Examinations. *Radiology, 287*(2), 554-562.  
<https://doi.org/10.1148/radiol.2017170592>
- Posch, N., Horvath, K., Wratschko, K., Plath, J., Brodnig, R., & Siebenhofer, A. (2020). Written patient information materials used in general practices fail to meet acceptable quality standards. *BMC Family Practice, 21*(1), 1-6 .
- Puchalski, A. L., & Magill, C. (2018). Imaging Gently. *Emerg Med Clin North Am, 36*(2), 349-368.  
<https://doi.org/10.1016/j.emc.2017.12.003>
- radiologyInfo. (2022). *RadInfo 4 Kids*. <https://www.radiologyinfo.org/en/for-kids>
- Rothman, S., Gonen, A., Vodonos, A., Novack, V., & Shelef, I. (2016). Does preparation of children before MRI reduce the need for anesthesia? Prospective randomized control trial .*Pediatr Radio, 46*(11), 1599-1605 .
- sco, I. (2016). *statistical survey*. [https://www.amar.org.ir/Portals/0/census/1395/results/ch\\_nsonvm\\_95.pdf](https://www.amar.org.ir/Portals/0/census/1395/results/ch_nsonvm_95.pdf).
- Thukral, B. B. (2015). Problems and preferences in pediatric imaging. *Indian Journal of Radiology and Imaging, 25*(04), 359-364 .
- Törnqvist, E., Månsson, Å., & Hallström, I. (2015). Children having magnetic resonance imaging: A preparatory storybook and audio/visual media are preferable to anesthesia or deep sedation. *J Child Health Care, 19*(3), 359-369.  
<https://doi.org/10.1177/1367493513518374>
- Yi, P. H., Yi, M. M., & Nguyen, J. C. (2018). Readability of online information related to pediatric radiation safety from societal websites. *American Journal of Roentgenology, 1128-1134* .