

Turkish Pediatric Nursing Thesis And Dissertations In Area Of Pain Management

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Abstract: The study aimed to the master and doctorate thesis about pain management in Turkey. The study was carried out by using data from Turkish Council of Higher Education Center, National Dissertation Center and Health Sciences Institutes of Turkish universities web sites, in electronic format submitted between 2007 and 2017. The keywords "pain", "pain management", and "pediatric nursing" were used. Total 44 thesis (75%) and dissertation (25%) were evaluated between 2007-2017. The studies were performed generally in 2016 (18.2%) and mostly in Istanbul (50%). The sample size of 56.8% of studies is between 51 and 100. 54.5% of the studies were performed on newborns/infants. The majority of the work is longer than 1 year (86.4%). The majority of studies have been performed in a single center (93.2%). Most of the studies are experimental (68.2%) and 59.1% are not published. Most of the studies aim to reduce the pain (84.1%). It was determined that the subjects of the master and doctorate thesis assessed within the scope of the study are based on the evaluation and reduction of acute pain. It has been determined that there are very few dissertations made by team work. Ph.D. thesis studies are mostly experimental and done over the years have been found to increase. It is envisaged that the number of experimental works and works about chronic pain relief will increase even more in the following years, so that team work can come to the forefront.

Key Words: Pain; pain management; pediatric nursing; academic dissertation

1. INTRODUCTION

Pain is a multi-faceted experience with unpleasant physical, emotional and psychological dimensions. According to the definition of the International Tax Research Society Taxonomy Committee (IASP); pain is an unpleasant emotional sensation and behavior that is related to the past experiences of an individual who is or is not related to tissue damage originating from a specific area of the body. What makes assessment of pain so complicated is that it is both a sensory and emotional personal experience [1]. Pain may be associated with a life-threatening event as well as emotional and psychologic consequences affecting the child's quality of life and educational performance [2–4]. Eliminating the pain in children is one of the most important responsibilities of health care professionals. Nurses play a very important role in evaluation and management of the pain in children. Because nurses provide care 24 hours a day and are the ones who spend the longest time with children as health care professionals [5]. Pain assessment and pain management are important aspects of patient care, nursing, nursing education. Also as a part of nursing and nursing education, pain assessment and management is a research and graduate academic study area [6]. Graduate academic studies mainly consists master thesis and doctoral dissertations. Thesis and dissertations have great importance not only due to their role in building the foundation of academic graduate studies but can also be considered to demonstrate the amount of research that has been conducted over time [7]. While developing their dissertations, graduate students discover the cutting edge of the discipline, learn the intricacies of the research process, and engage in scientific dialogue with experts in the field [8]. The post-graduate education in Turkey, in 1968, the University of Hacettepe initiated the Master of Science in Nursing Program and in 1972, the Doctorate in Nursing Program [9]. In Turkey master thesis and doctoral dissertations began to be collected in 1987 by the Turkish Council of Higher Education. In 1996, the collection of thesis and dissertation reorganized and was named the "National Thesis Database". With the innovations in

technology, beginning from the March 2006, thesis began to be presented on electronic platform. Furthermore, in 2007, with "Electronic Thesis Archive Project", the Turkish Council for Higher Education the National Database were able to offer users full text of dissertations and thesis in pdf format via the internet [10,11].

2 RESEARCH METHODOLOGY

The literature search was carried out as an integrative review by using data from Turkish Council of Higher Education Center, National Dissertation Center and Health Sciences Institutes of Turkish universities web sites. This study aimed to evaluate academic graduate studies in the area of pain management pediatric nursing between 2007-2017 years and to describe the status and trends in master thesis and dissertations in the area of pain management pediatric nursing in Turkey.

Data Sources

A total of 555 thesis and dissertations in electronic format submitted between 2007 and 2017 (until December 2017) were obtained from the National Dissertation and Thesis database using "pediatric nursing" as the keyword. The documents comprised thesis and dissertation. After examination of these documents, included the "nursing dissertation" and "pain", "pain management", "pediatric nursing" keywords, they were found to be unrelated to the field.

Inclusion and Exclusion

Inclusion criteria for thesis were the following: carried out by nurses and nurses researchers in Turkish, between 2007-2017 and about pain management. Thesis that not carried out by nurses and nurses researchers in Turkish, between 2007-2017 and about pain management were excluded. The literature research was conducted in dependently to assess eligibility criteria by the authors.

Therefore, in this study, 100 documents were analyzed. 56 documents that did not meet the evaluation criteria were excluded from the evaluation. Most of the studies were in the category of "Master's Thesis" (n= 33, 75.0%) followed by "Doctoral Dissertations" (n= 11, 25.0%).

Data Analysis

The document analysis research covers examination of written materials containing information about the targeted facts. The documents were examined by setting some criteria like publication year, universities, departments, and subjects. Research data collected by an evaluation form was designed by researchers. The data form designed mainly in two categories; the first one was general characteristic and the second category was pain assessment and management characteristics of thesis and dissertations (Table 1).

TABLE 1. DATA EVALUATION FORM

General characteristic	Pain assessment and management
Level (MSc, PhD)	Research aim
Sample (size, gender, age group)	Pain type
Study design	Pain assessment method (tools)
Target population	Pain period
Data collection (period)	

Data was evaluated using the descriptive statistics available in the Statistical Package for Social Sciences Software (SPSS 22.0). Descriptive statistical methods were used to assessment of data. In evaluating the data, percentage values were examined.

4 RESULTS

TABLE 2. MAIN CHARACTERISTICS OF NURSING THESIS AND DISSERTATIONS

Characteristics	Thesis		Dissertations		Total	
	n	%	n	%	n	%
Year						
2007	1	3.0	0	0	1	2.3
2008	1	3.0	1	9.1	2	4.5
2009	4	12.1	0	0	4	9.1
2010	2	6.1	0	0	2	4.5
2011	3	9.1	1	9.1	4	9.1
2012	4	12.1	3	27.3	7	15.9
2013	2	6.1	1	9.1	3	6.8
2014	5	15.2	1	9.1	6	13.6
2015	5	15.2	0	0	5	11.4
2016	4	12.1	4	36.4	8	18.2
2017	2	6.1	0	0	2	4.5
University						
Acibadem University	1	3.0	3	27.3	4	9.1
Atatürk University	2	6.1	0	0	2	4.5
Bülent Ecevit University	3	9.1	0	0	3	6.8
Celal Bayar University	1	3.0	0	0	1	2.3
Çukurova University	1	3.0	4	36.4	5	11.4
Ege University	2	6.1	1	9.1	3	6.8
Erciyes University	1	3.0	0	0	1	2.3
Eskişehir Osmangazi University	1	3.0	0	0	1	2.3
Gülşane Training and Research Hospital	1	3.0	0	0	1	2.3
Haliç University	5	15.2	0	0	5	11.4
Istanbul University	5	15.2	3	27.3	8	18.2
Marmara University	7	21.2	0	0	7	15.9
Medipol University	1	3.0	0	0	1	2.3
Mesin University	1	3.0	0	0	1	2.3
Trakya University	1	3.0	0	0	1	2.3

In this study, total 44 thesis (n=33, 75%) and dissertation (n=11, 25%) were evaluated in ten year period. The studies were performed generally in 2016 (18.2%) and mostly in Istanbul (50%). The thesis and dissertations were prepared by 15 Universities, mainly at Istanbul University (15.9%) (Table 2).

TABLE 3. MAIN CHARACTERISTICS OF NURSING THESIS AND DISSERTATIONS

Characteristics	Thesis		Dissertations		Total	
	n	%	n	%	n	%
Sample Size						
n=0-50	6	18.2	1	9.1	7	15.9
n=51-100	20	60.6	5	45.5	25	56.8
n=101-150	6	18.2	3	27.3	9	20.5
n=151-200	1	3.0	1	9.1	2	4.5
n=201-250	0	0	0	0	0	0
n=250 and above	0	0	1	9.1	1	2.3
Sample Age Group						
Newborn/Infants	17	51.5	7	63.6	24	54.5
Child	12	36.4	4	36.4	16	36.4
Adult and child	2	6.1	0	0	2	4.5
Adult	2	6.1	0	0	2	4.5
Target Group						
Patient	18	54.5	6	54.5	24	54.5
Healthy child	9	27.3	5	45.5	14	31.8
Patient and nurse	1	3.0	0	0	1	2.3
Child and parents	3	9.1	0	0	3	6.8
Nurse	2	6.1	0	0	2	4.5
Data collection period						
≤ 1 year	30	90.9	8	72.7	38	86.4
1 year	1	3.0	1	9.1	2	4.5
> 1 year	1	3.0	1	9.1	2	4.5
≥ 2 year	1	3.0	1	9.1	2	4.5
Research Site						
First step	1	2.9	2	20.0	3	6.8
Hospital / ICU hospital / clinic	10	29.4	3	30.0	13	29.5
Hospital / clinic	13	38.2	1	10.0	14	31.8
Hospital / polyclinic	4	11.8	2	20.0	6	13.6
Hospital / emergency service	1	2.9	0	0	1	2.3
Hospital / babyroom	5	14.7	2	20.0	7	15.9
Research Center Type						
Single center	31	93.9	10	90.9	41	93.2
Multicentre	2	6.1	1	9.1	3	6.8
Research design						
Descriptive	4	12.1	0	0	4	9.1
Experimental	21	63.6	9	81.8	30	68.2
Semixperimental	3	9.1	1	9.1	4	9.1
Semixperimental+longitudinal	0	0	1	9.1	1	2.3
Descriptive+comperative	3	9.1	0	0	3	6.8
Longitudinal+ experimental	1	3.0	0	0	1	2.3
Descriptive+Longitudinal	1	3.0	0	0	1	2.3
Publishing status						
Unpublished	22	66.7	4	36.4	26	59.1
National nursing journals	5	15.2	1	9.1	6	13.6
International nursing journals	6	18.2	6	54.5	12	27.3

54.5% of the studies were performed on New borns/infants and 54% on patients. The majority of the The distribution of the 44 documents obtained from the National Dissertation and Thesis Database is shown in Table 3. The sample size of 56.8% of studies is between 51 and 100. work is longer than 1 year (86.4%). Studies were usually conducted in hospital polyclinics (31.8%). The majority of studies have been performed in a single center (93.2%). Most of the studies are experimental (68.2%) and 59.1% are not published (Table 3).

TABLE 4. EVALUATION OF NURSING THESIS AND DISSERTATIONS ACCORDING TO PAIN

	Thesis		Dissertations		Total	
	n	%	n	%	n	%
Aim of research						
To reduce pain	26	78.8	11	100.0	37	84.1
Other	7	21.2	0	0	7	15.9
Pain Characteristic						
Acute Pain	30	90.9	10	90.9	40	90.9
Chronic Pain	1	3.0	1	9.1	2	4.5
Acute+ Chronic Pain	2	6.1	0	0	2	4.5
The topic of study						
Procedural pain in newborns	8	24.2	5	45.5	13	29.5
Procedural pain in children	9	27.3	3	27.3	12	27.3
Postoperative pain	6	18.2	1	9.1	7	15.9
Heel blood sampling	7	21.2	1	9.1	8	18.2
Pain in children with cancer	0	0	1	9.1	1	2.3
Positioning	1	3.0	0	0	1	2.3
Other	2	6.1	0	0	2	4.5
Intervention						
Yes	25	75.8	10	90.9	35	79.5
No	8	24.2	1	9.1	9	20.5
Intervention by						
Nurse	21	84.0	9	90.0	30	85.7
Crew	4	16.0	1	10.0	5	14.3
Type of intervention						
Nonpharmacological	23	92.0	10	100.0	33	94.3
Pharmacological+ nonpharmacological	2	8.0	0	0	2	5.7
Intervention						
45 seconds cold application	0	0	1	10.0	1	2.9
Mother heart sound	0	0	1	10.0	1	2.9
Breast milk+sucrose	1	4.0	0	0	1	2.9
Breast milk+sucrose+pacifier use	0	0	1	10.0	1	2.9
Rapid vaccine without aspiration + manual pressure	0	0	1	10.0	1	2.9
Leg massage	0	0	1	10.0	1	2.9
Honeyed milk	1	4.0	0	0	1	2.9
Balloon inflating + coughing	0	0	1	10.0	1	2.9
White noise and lap	1	4.0	0	0	1	2.9
Kaleidoscope	1	4.0	0	0	1	2.9
Vessel imaging	1	4.0	0	0	1	2.9
Parent participation	1	4.0	0	0	1	2.9
Training with plush bear about preparation for the procedure	1	4.0	0	0	1	2.9
EMLA+sucrose	2	8.0	0	0	2	5.7
Pacifier+oral sucrose+positioning+heal heating	1	4.0	0	0	1	2.9
Breastfeeding+distraction	1	4.0	0	0	1	2.9
Cold application on injection site	1	4.0	0	0	1	2.9
Training by nurse	1	4.0	0	0	1	2.9
Amniotic fluid, breast milk, scent of lavender while taking blood sampling	0	0	1	10.0	1	2.9
Kangaroo care	2	8.0	0	0	2	5.7
Swaddling	1	4.0	0	0	1	2.9
Swaddling+ sucrose+breast milk+ distilled water	1	4.0	0	0	1	2.9
Mechanic vibration	1	4.0	0	0	1	2.9
Music	3	12.0	0	0	3	8.6
Clown+therapeutic play	0	0	1	10.0	1	2.9
Positioning	2	8.0	0	0	2	5.7
Positioning +pacifier use	0	0	1	10.0	1	2.9
Training child and therapeutic play preoperative period	0	0	1	10.0	1	2.9
Distraction with virtual reality glasses	1	4.0	0	0	1	2.9
Sucrose	1	4.0	0	0	1	2.9

Most of the studies aim to reduce the pain (84.1%). Acute pain was discussed in 90.9% of the studies. 29.5% of studies were "Painful procedures in newborns" and 27.3% "Painful procedures in children". 79.5% of the studies were carried out and 85.7% of these practices were done by the nurse. 94.3% of the implementations are non-pharmacological. The most common practice is music listening (8.6%) (Table 4). The most commonly used scale for studies is the NIPS (31.8). 81.8% of the studies evaluated current pain. The level of pain has changed mostly on a daily basis (88.6%). Pain was assessed to be most "pre-procedural, during the procedure, post-procedural" (25%) and "during the procedure" (22.7%). 65.9% of studies did not use an additional assessment scale / form (Table 5).

TABLE 5. PAIN MEASUREMENT CHARACTERISTIC

Characteristics	Thesis		Dissertations		Total	
	n	%	n	%	n	%
Scale						
None	2	6.1	0	0	2	4.5
Neonatal Pain and Discomfort scale	1	3.0	1	9.1	1	2.3
Face, Legs, Activity, Cry, Consolability Scale	8	24.3	0	0	10	18.1
Face, Legs, Activity, Cry, Consolability Scale +Numeric Scale	1	3.0	0	0	7	2.3
Face, Legs, Activity, Cry, Consolability Scale-Revised	1	3.0	1	9.1	1	2.3
Neonatal Pain, Agitation and Sedation Scale	10	30.3	4	36.4	1	2.3
Neonatal Infant Pain Scale	1	3.0	0	0	1	31.8
Premature Infant Pain Profile	5	15.2	2	18.2	15	13.7
Visual Analog Scale	2	6.1	2	18.2	5	9.1
Wong-Baker Faces Pain Rating Scale	1	3.0	0	9.1	4	6.8
Facial expressions rating scale	1	3.0	0	0	2	4.5
Faces pain comparison scale	2	5.9	0	0	1	2.3
Pain assessment period						
Current pain	26	78.8	10	90.9	36	81.8
8 hours	3	9.1	1	9.1	4	9.1
Other	4	12.1	0	0	4	9.1
Pain change						
>One day	1	3.0	0	0	1	2.3
Daily	28	84.8	11	100.0	39	88.6
Other	4	12.1	0	0	4	9.1
Follow up duration						
2 times with 3 hours	1	3.0	0	0	1	2.3
5 minutes before+during+5 minutes after procedure	1	3.0	0	0	1	2.3
Other	0	0	1	9.1	4	9.1
Before procedure	4	12.1	1	9.1	1	2.3
Before and during procedure	3	9.1	5	45.5	4	9.1
Before+during+after the procedure	6	18.2	0	0	11	25.0
Before + during- 1st,2nd,3rd minutes after procedure	1	3.0	0	0	1	2.3
Before and after procedure	1	3.0	2	18.2	1	2.3

5 DISCUSSION

Pain is a factor that adversely affects the comfort of patients and makes it difficult for patients to cope with the current situation. Pain is one of the most important reasons why children do not accept medical treatment and care and have bad experience with hospitalization. Therefore, the number of studies on the management of pain in children is increasing [2]. In this study, the thesis and dissertations on pain management in children were examined. In 84.1% of this study, the number of theses pain management in children has been increased according to the years. 54.5% of the studies examined were related to pain management in newborns. Uğurlu et al. [12] found that abdominal pain was the most common pain in 0-1 age group. Newborns do not perceive pain as adults. Because in the newborn, the nervous system is immature and most of the pain structures are not as advanced as adults. However, in recent years, it has been advocated that newborns have experienced pain and pain due to their well-equipped and developmentally completed biological structures [13]. In Bakır's [13] review, it is emphasized that pain perception varies according to culture and age. For this reason, nurses should be aware of pain as newborns and children perceive pain as well as adults when evaluating pain in newborns and children [13]. It was seen that the effects of age and culture on pain perception are not evaluated in the theses included in the study. In 79.5% of the studies, it was found that an application was made to reduce the pain and 85.7% of the applicants were nurses. Nurses take an active

role and responsibility in all stages of life from fertilization to death of individuals [14]. In achieving these goals; know the normal biologic features of the newborn, determine deviations and causes of normal and plan and implement appropriate nursing interventions when necessary [15]. Especially, considering the pain and anxiety that occur during interventional nursing practices [16], the newborn in the team has the opportunity to observe and evaluate the newborn more closely, the care of the newborn with pain plays a more active role in reducing or eliminating the pain [16]. In the thesis and dissertations included in the study, it was seen that mostly the nurses performed the practices to reduce the pain. This may be because nurses think that reducing pain is within their own duties and responsibilities. Most of the studies have been performed to reduce pain and 94.3% of these applications are nonpharmacological applications. Cong et al. [16] reported that 83% of nurses were able to control pain by pharmacological methods and 79% by non-pharmacological methods. Akcan and Yiğit [18] found that nurses used pharmacological method according to the physician order, 31.4% nonpharmacological methods and 13.9% used both pharmacological and nonpharmacological methods. In the same study, all of the nurses stated that they used non-narcotic analgesics and 84.8% of them used narcotic analgesics according to their physicians. He et al. [18] examined the nonpharmacological methods applied by nurses, and they stated that the patient gave the patient a chance of giving a positive message, maintaining the balance of heat and giving the appropriate position. However, in the same study it is emphasized that the use of nonpharmacological methods is low due to heavy workload and lack of time and problems in communicating with the child [17]. Svendsen and Bjørk [21] reported that nurses expressed better cooperation with children when using pharmacological methods and that there was not enough time to use nonpharmacological methods. In this study, it was determined that the nurses used nonpharmacological methods as well as pharmacological methods. When the theses are examined, the most used applications to relieve the pain were music (8.6%), EMLA + sucrose (5.7%), kangaroo care (5.7%), positioning (5.7%). Other the applications cold application, nursing education, parent involvement, arson, leg massage, mechanical vibration, vascular imaging method, pacifier, clown-therapeutic humor, giving (watching), distraction, listening to mother's heart sound. Uzelli and Yapucu [20] found to reduce the pain associated with injection of giving sucrose solution orally before intramuscular injection of 80 newborn infants in Turkey. Göl and Özsoy [19] stated that the 10-second manual pressure in infants aged 4-6 months reduced the pain related vaccination and crying time. Harrington et al. [20] reported that physical practices, such as loose swaddling, lateral / prone position, ragging, gently shaking, and breastfeeding, resulted in decreased pain scores and crying post-vaccination in 230 children aged 2-4 months. In Malngiang's [21] study, it was concluded that breast milk and oral glucose solution in newborns were effective and safe in relieving needle-related pain. One of the most commonly studied nonpharmacological methods with neonates is the care of kangaroos [22,23]. Seo et al. [23] in their study with 96 newborns, it was reported that the neonates in the experimental group who received kangaroo care received less pain before and after the heel blood collection in the first, second and second minutes. It was also emphasized that kangaroo care has a positive effect on

pulse, oxygen saturation and crying time of newborns [23]. With the effect of kangaroo care, it is reported that the mother speaks with her baby and breastfeeding her baby reduces environmental stress and the development of the baby's central nervous system is positively affected [22]. Canbulat et al. [24] in their study with children between the ages of 7 and 12 years, in reducing the pain and anxiety during the blood collection process to compare distraction cards and kaleidoscope, distraction cards are more effective in reducing pain and anxiety reported. They emphasized that the combination of both visual and auditory stimuli will be more effective in attracting attention [24]. In addition, parental participation were reported to have a positive effect on postoperative pain management in children [25]. Ullan et al. [26] divided 95 children between the ages of 1-7 years into two groups. a group of parents played with a toy and other group performed any intervention. As a result, it was stated that children in the group who play with toys experience less pain than the children not play with a toy [26]. Khadra et al. [27] reported that cartoon watching has a positive effect on children's perceived pain level during dressing changes. Dovney and Zun [28] concluded that cartoon watching was effective in reducing pain during various painful procedures. Bikmoradi et al. [29] found that children in the experimental group experienced less pain because of lavender odor in their randomized controlled study with 60 children. Similarly, Razaghi et al. [30] in their study with 80 newborns, it was reported that the pain scores of newborns in the lavender-coking group were less. All of the non-pharmacological methods used in these theses were found to be effective. However, some pharmacological methods were not effective in the literature. This may be due to the differences in age and culture of the methods, the duration of application, the methods of administration and the sampling. It was observed that 90.9% of the theses examined in the study were aimed at reducing acute pain. However, studies on chronic pain management are also needed in pediatric oncology patients. Diseases and treatments in pediatric oncology patients prevent their satisfaction with life, frequent hospital stay, irreversible pain and therefore lack of basic activities have a negative effect on the quality of life of the child [3,4]. Evidence regarding the lack of efficacy in drug-based therapies emphasizes the role of a multidisciplinary approach [31]. Therefore, planning, application and evaluation of pain-related interventions for strengthening the quality of life in children with chronic pain is of great importance [32]. Jibb et al. [5] reported that aromatherapy, art therapy, distraction, hypnosis, physical activity, position, touch and cognitive behavior therapies are used in the management of cancer-related pain in children. It was also emphasized that nurses play a key role in the management of cancer-related pain in children [5]. In the light of this information, it is concluded that drug-based pain treatment is not very effective in improving the quality of life, and that more literature is needed on the nonpharmacological management of chronic pain in children. The most frequently used pain scales were Neonatal Pain, Agitation and Sedation Scale (31.8%), Face, Legs, Activity, Cry, Consolability Scale + Numeric Scale (FLACC+NS) (15.9%), Visual Analog Scale (VAS) (11.4%), Wong-Baker (9.1%). Göl and Onarıcı [37] found that 95% of nurses did not know about any scale used in pain assessment in their study with 40 nurses. All the nurses who stated that they had knowledge about VAS. In the same study, it was determined that no scale was used in the

evaluation of pain in children in all institutions. The fact that nurses knew only one pain assessment scale in this study shows that there was a lack of information on this issue [33]. It was seen that different scales are used in the thesis and dissertations included in the study. This situation suggests that nurses' knowledge about different pain scales will increase with the future studies.

4 LIMITATIONS AND FUTURE STUDY

This study was limited by the master and doctorate thesis made in Turkey between 2007-2017. Another limitation was restricting the research for academic documents to electronic repositories, since there may be another studies in university libraries that were not included in this study. As nursing education continues to expand further into doctoral research, programs must examine thesis and dissertation formats in order to both prepare future nurse scholars and disseminate nursing research that is critical to improving nursing education, patient care, and clinical practice. Thesis and dissertations have an important role in development of nursing theory and practice. This electronic search showing the status of pain assessment and management studies within Turkish nursing thesis and dissertations. It is a fact that these studies will benefit children suffering from acute pain, their parents, nurses working in clinics and academic researchers. However, there is a major shortcoming in nursing thesis and dissertation for the management of chronic pain in children. With the help of new experimental doctoral and master's thesis studies, it is thought that care will be given in line with evidence-based nursing practices in a multidisciplinary environment especially for children suffering from chronic pain.

5 CONCLUSION

It was determined that the subjects of the master's and doctoral thesis evaluated in this study were based on the assessment and relief of acute pain, and there were a few studies conducted by team work. It was determined that the experimental studies were predominant in the doctorate and the studies conducted over the years increased. It is foreseen that the number and quality of the experimental studies will increase further and the team work will be more prominent in the studies to be carried out in the following years.

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