Kindergarten teachers' health literacy: understanding, significance and improvement aspects

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Abstract

One can claim that one of the main ambitions of every society is to assure children's healthy life start and their further development creating a favourable environment for this. Preschool education institution is a favourable context to take care of children's health, shape healthy lifestyle skills, develop various health care activities taking into account the child's development peculiarities. However, more and more research show that children's health has a tendency to become worse, regardless of various carried out health care programmes and/or projects. In this respect, kindergarten teachers' health literacy becomes a cornerstone. However, very little is known about kindergarten teachers' health literacy and this undoubtedly makes a research problem. A qualitative research was carried out in the months March to May 2019, participating 105 kindergarten teachers. Applying a research instrument of 5 open ended questions, the gathered verbal data array was analysed using a quantitative content analysis. The findings show that kindergarten teachers' health literacy understanding is more focused on the knowledge about health than on practical health education aspects, e.g., health promotion, disease prevention and prophylaxis. Health literacy promotion is basically identified with various educational events. The support of preschool education institutions themselves in this field is not considered important. Health promotion, knowledge conveyance, practical behaviour are poorly expressed in health literacy understanding. It is obvious that this can influence children's health competence education. Therefore, it is very important that kindergarten teachers' health literacy does not become an obstacle for children's health education implementation. Further research is

urgent and necessary, seeking to ascertain how kindergarten teachers' health literacy understanding influences their practical activity educating children's health competence, forming children's healthy lifestyle demand.

Keywords
Health literacy, kindergarten teacher, qualitative research, content analysis

Résumé

On peut affirmer que l'un des objectifs fondamentaux de chaque société est d'assurer aux enfants un bon début de vie et leur développement ultérieur en créant un environnement favorable à cette fin. L'institution d'éducation préscolaire est un lieu favorable pour la santé des enfants, pour le déploiement des habitudes de vie saines et d'une variété d'activités de bien-être tenant compte des particularités du développement de l'enfant. Cependant, de plus en plus de recherches montrent que la santé des enfants a tendance à se détériorer/dégrader malgré divers programmes et/ou projets de promotion de la santé mis en œuvre. La littérature en matière de santé des enseignants de maternelle est au cœur de cette approche. Pourtant, les connaissances des enseignants de maternelle en matière de santé sont très peu connues, ce qui pose sans aucun doute une question de recherche. Dans les mois de mars à mai 2019, une recherche qualitative a été menée auprès de 105 enseignantes de maternelle. En appliquant un instrument de recherche de 5 questions ouvertes, de données verbales recueillis ont été analysés à l'aide d'une approche de contenu quantitative. Les résultats montrent que la compréhension des enseignants de maternelle de la littérature à la question de santé est davantage axée sur la connaissance de la santé que sur les aspects pratiques de l'éducation à la santé, comme la promotion de la santé, la prévention des maladies et la prophylaxie. La promotion de la littérature en santé est fondamentalement identifiée avec divers événements éducatifs. Le soutien des établissements d'enseignement préscolaire eux-mêmes dans ce domaine n'est pas considéré comme important. Une mauvaise compréhension de la littérature en matière de santé traduit la promotion de la santé, le transfert de connaissances, le comportement concret. De toute évidence, cela peut influencer le développement des compétences par rapport à la santé des enfants. Par conséquent, il est important que les connaissances des enseignants de maternelle en matière de santé ne deviennent pas un obstacle à l'éducation à la sante. Des recherches supplémentaires sont nécessaires pour déterminer dans quelle mesure la compréhension de la littérature en santé par les enseignants de maternelle influence leurs pratiques pour développer les compétences des enfants par rapport à la santé et répondre aux besoins de leurs élèves en matière de mode de vie sain.

Mots-Clés
Connaissances en matière de santé, enseignant de jardin d'enfants, recherche qualitative, analyse du contenu

Introduction

It is without doubt that one seeks to guarantee all-round children's life at present and in future: proper conditions of life, social-psychological security, upbringing and other. Health literacy is one of healthy lifestyle formation factors. According to researchers, health literacy research is one of priority society's health science research spheres in Europe and the USA (Zagurskienė & Misevičienė, 2010). Undoubtedly, kindergarten teachers are an essential joining chain in all health education system. Kindergarten teachers should affect children's attitude to health, encourage them to constantly take care of themselves and to live healthy. During the education process, it is sought to develop behaviour and values which would form the foundation of healthy way of living, teach to take care of one's health, help to understand harmful habits and other factors' making one's health worse damage. Children's health education importance was analysed in various research articles (Cottrell, Girvan, & McKenzie, 2011; Hayman, 2016; Sørensen et al. 2015). Kindergarten teachers should train their learners to perceive their body demands and conditions, to express the opinion about their health status and feelings, to get over the emerging obstacles and difficulties. So, it is important to have knowledge and be able in a modern methodological, interesting way to organise preschool education in respect to health literacy formation. Earlier conducted research show that educators quite often lack knowledge how to develop children's health preserving and strengthening competence, healthy way of living habits, to form their health literacy (Jourdan et al., 2018; Moynihan et al., 2015). On the other hand, through education one has to try to develop every child's health literacy skills from preschool age to the young adult (Sanders et al., 2009). Kindergarten teachers' health knowledge is very important in order to improve children's health status (Chałas, Maksymiuk, & Fajgier, 2014). For example, research carried out in China showed that kindergarten teachers have low levels of nutrition knowledge (Liu et al., 2018). Similar results were obtained by Slovenian researchers. More than 50% of kindergarten teachers who participated in the research pointed out that they acquired the knowledge about healthy ways of living during their schooling (Slabe et al., 2016). One can think that kindergarten teachers' health literacy in their professional activity is not appropriately enhanced.

There is very little health literacy research conducted in Lithuania. This is especially said about preschool age children and kindergarten teachers. As Gudžinskienė, Česnavičienė and Suboč (2007) state, health education efficiency results do not cause joy however, in order to change this in the positive direction, all health education

participants' involvement is necessary. By the order of the Minister of Education and Science of the Republic of Lithuania of 2 September 2014, Preschool education general programme (Preschool education general programme, 2014) was confirmed. In the programme, health competence is clearly described, which includes knowledge and understanding, abilities, habits and value attitudes, necessary for preserving and strengthening psychic, physical and social health. On the other hand, Lithuania is a member of European health strengthening school net "Schools for European people's health" actively participating in international events [in the USA it is called 'co-ordinated school health' (St Leger, 2001)]. Also, a continual project takes place – a social initiative "Health-friendly educational institution" initiated by Public Institution "Health friendly" (Health friendly educational institution, 2019). The net of health strengthening schools is active. It is fully understandable that in the formation of children's health competence, basically all preschool education institution's employees – preschool, pre-primary education pedagogues, society health care specialist and the other people working in the kindergarten take part. It is very important that children learn to live healthy from the early days because the source of many diseases lies in childhood (Kuojienė, Norkūnienė, & Tarvydienė, 2009). Understanding is also important that not only parents are responsible for the child's health and its improvement, but also education institutions, first of all, pedagogues-kindergarten teachers. It is worthy of attention that recently health education process in preschool educational institutions does not distinguish itself by activity, and this might be related to different preschool education pedagogue's health development understanding. Thus, it is important to analyse how preschool education pedagogues understand health literacy, how they value it, how they value its significance developing children's health.

So, the main research *aim* was – to examine kindergarten teachers' position about health literacy. It was analysed how kindergarten teachers understood health literacy, healthy way of living, what health literacy promotion possibilities they discerned, how they valued personal abilities in health sphere and how they perceived kindergarten teacher's health literacy importance in education process. For this aim, the answers for the following questions were sought in the research:

- What is kindergarten teachers' understanding of health literacy and healthy lifestyle?
- What is kindergarten teachers' attitude regarding health literacy improvement/ promotion?
- How do kindergarten teachers value personal abilities necessary to find information about health, understand, estimate and apply it?
- How kindergarten teachers understand health literacy significance to students' education?

Research Methodology

General Research Characteristics

A qualitative research was conducted. The research was carried out in the months April to June 2019. Such research is specifically recognized as "basic or generic qualitative research" (Merriam, 1998), because it has the essential characteristics of qualitative research. On the other hand, such research forms possibilities to obtain data about the researched phenomenon or about possible new aspects of the phenomenon (Bitinas, 2002). The researchers evaluated the attitude that qualitative research (qualitative research method application) are very suitable for the examination of health and questions related to it, they are quite often applied in scientific research related to health (Pope & Mays, 1999; Sandelowski, 2000).

Research Sample

In the research participated 105 kindergarten teachers from various Lithuanian locations (more than 60 preschool education institutions were involved in the research). The respondents were questioned during professional development events having taken place; therefore, the respondents' geographical distribution was rather wide. Taking into consideration Morse (1994) recommendations, the sample of 30-50 participants is suitable for such kind of research. Having evaluated Creswell's (1998) position, a range of 20-30 participants is acceptable for qualitative samples. So, the researchers held the opinion that basically a random sample of 105 questioned kindergarten teachers is appropriate in order to formulate grounded conclusions. In addition, it was estimated that not many variables were being analysed in the research, the examined population was basically homogenic, such sample volume was considered appropriate (Neuman, 1997). Only women participated in the research. Before the research, research objectives were explained to the kindergarten teachers, the respondents were informed about the purposefulness of usage of the gathered information, and also the respondents' verbal agreement was obtained to participate in the research.

Instrument

The respondents were presented five open-ended questions-tasks:

- How do you understand kindergarten teacher/s' health literacy? Please give a comment.
- What does healthy lifestyle/healthy way of living mean to you? Please give a comment.
- How would it be possible to enhance/improve kindergarten teachers' health literacy? Please give a comment.
- Evaluate (describe) your abilities, necessary to find information about health, understand it, estimate and apply? Please give a comment.
- What importance do you think kindergarten teachers' health literacy has in teaching students to live healthy? Please give a comment.

The presented questions were focused on general kindergarten teachers' understanding about health literacy, healthy lifestyle, health literacy enhancement and personal ability evaluation. Selecting the questions for the research instrument, health literacy research carried out in some European Union member countries (Sørensen et al., 2015) was taken into account. In addition, World Health Organisation (WHO) and UNESCO expert positions regarding teacher preparation for health education (Executive Board, 25, 1960) were analysed and considered.

The presented questions were prepared specially for this research, were analysed separately and do not comprise a separate measurement scale. Such questions were presented in earlier research; therefore, they can be considered methodologically approbated (Lamanauskas & Augienė, 2018).

Data Analysis

The obtained research results were expressed in a written free answer form. Afterwards, the gathered answers were coded. The researchers were trying to find similarities, differences and interrelations between text segments and to distinguish clear semantic units. So, the smallest text component, which semantically differed from the others, was considered the analysis unit. In the initial stage, a multiple text reading was carried out. Later, grouping of the most frequently repeating semantic units (subcategory distinction) was carried out. Semantically close subcategories were joined into categories. In the last stage, subcategory and category interpretation and grounding were carried out. The researchers grounded content analysis on the calculation of variables, which were important for the researcher and which could be generalised.

A quantitative content analysis type was chosen, when a code system is defined, calculation results are arranged in the form of tables. It was sought to ascertain how the respondent perceives/understands the analysed phenomenon, reflecting on his experience, referring to the researcher's presented questions. Having evaluated Mayring's (2002) position, one can claim that content analysis is a valid method, allowing to draw reliable conclusions referring to a systemically analysed text (verbal data array). Such approach allows avoiding subjective text interpretation and guarantees analysis objectivity (Guščinskienė, 2002). Before choosing content analysis method, the researchers made sure that there was enough data for the research, and that it was representative. Semantic unit distinction and grouping was carried out independently by two researchers seeking in this way to guarantee the analysis objectivity.

Research Results

Having carried out kindergarten teachers' answer on health literacy categorisation, four categories were distinguished: *Knowledge about health, Information about health management*, *Health promotion, Practical behaviour.* Results are presented in Table 1.

TABLE 1

Kindergarten teachers' health literacy understanding

Category	*N* (%)	Subcategory	*N* (%)	Subcategory components	*N* (%)
Knowledge about health	65 (51.1)	Health knowledge development	30 (23.9)	Interest in healthy lifestyle	17 (13.8)
				Interested in literature about health (books, articles and so on)	6 (4.7)
				Interest in TV programmes about health	3 (2.3)
				Seminar attendance	2 (1.5)
				Participation in various health projects	1 (0.8)
				Self-education on health questions	1 (0.8)
		Knowledge about healthy lifestyle	23 (17.9)	General understanding about health preservation	6 (4.7)
				Exhaustive knowledge about health	5 (3.9)
				Knowledge about healthy lifestyle	5 (3.9)
				Knowledge about emotional and physical health	3 (2.3)
				Understanding about healthy lifestyle / healthy way of living	3 (2.3)
				Knowledge about basic healthy lifestyle principles	1 (0.8)
		Knowledge about nutrition	7 (5.5)	Healthy nutrition, having knowledge about healthy nutrition	4 (3.1)
				Knowledge about healthy foodstuffs	1 (0.8)
				Knowledge about healthy nutrition	1 (0.8)
				Positive attitude to healthy nutrition	1 (0.8)
		Knowledge about health care	5 (3.8)	Knowledge about physical activity benefit and demand	2 (1.5)
				Disease prophylaxis and prevention	2 (1.5)
				Having knowledge about personal hygiene	1 (0.8)

TABLE 1

Information about health management	34 (26.5)	Information search	24 (18.8)	Ability to search for information about health	12 (9.4)
				Ability to find information about health	12 (9.4)
		Information understanding	10 (7.7)	Ability to understand information about health	8 (6.2)
				Ability to accept the conveyed information	2 (1.5)
Health promotion	18 (13.9)	Knowledge conveyance	11 (8.5)	Ability to convey knowledge/information about health to children	7 (5.4)
				Ability to use and convey knowledge about health to students	4 (3.1)
		Encouragement to live healthy	7 (5.4)	Healthy way of living propagation	4 (3.1)
				Knowledge of promoting healthy lifestyles	3 (2.3)
Practical behaviour	11 (8.5)	Healthy lifestyle	8 (6.1)	Knowledge about healthy lifestyle	3 (2.3)
				Ability to live healthy	3 (2.3)
				Good physical health	2 (1.5)
		Taking care of one's health	3 (2.4)	Taking care of personal health	1 (0.8)
				Self-care (cleanness, hygiene, diet)	1 (0.8)
				Physical and psychic health nurturing	1 (0.8)

Note: 128 semantic units were distinguished

The first category *Knowledge about health* (51.1%) was of great importance. An important position in this category occupied *health knowledge development* (23.9%) (interest in literature about healthy lifestyle, watching TV programmes about health, seminar attendance, participation in various health care projects, self-education on health questions, and so on) and *knowledge about healthy lifestyle* (17.9%) (knowledge about emotional and physical health, health preservation, understanding about healthy lifestyle, knowledge about basic healthy lifestyle principles, and so on). Significantly less concentration was on the *knowledge about nutrition* (5.5%) (having knowledge about healthy nutrition, knowledge about healthy foodstuffs, and so on) and *knowledge about health preservation* (3.8%) (Knowledge about physical activity benefits and demands, disease prophylaxis and prevention, personal hygiene).

The second, according to importance, was the category *Information about health*

management (26.5%). Kindergarten teachers' answers allow stating that the most important parts in this category were *information search* (18.8%) i.e., ability to search for information about health and *information understanding* (7.7%) i.e., ability to accept and understand information about health.

The third, according to importance, was the category *Health promotion* (13.9%). The research results revealed that the main health promotion ways were *knowledge conveyance* (8.5%) i.e., to convey knowledge and information to children and *encouragement to live healthy* (5.4%).

The fourth category *Practical behaviour* (8.5%) was the least significant. It consisted of two subcategories: *healthy lifestyle* (6.1%), *and health care* (2.4%).

The presented research data analysis obviously shows that kindergarten teachers' literacy understanding is more concentrated to knowledge about health, and to information about health management than to practical health aspect.

Kindergarten teachers' healthy lifestyle understanding was examined. Four categories were distinguished: *Rest and work harmony, Healthy nutrition, Emotional status, Health quality.* The category structure is presented in Table 2.

TABLE 2

Healthy way of living / healthy lifestyle understanding

Category	*N* (%)	Subcategory	*N* (%)	Subcategory components	*N* (%)
Rest and work harmony	58 (37.2)	Active rest	24 (15.4)	Physical activity	11 (7.1)
				Active lifestyle	5 (3.2)
				Organism strengthening	5 (3.2)
				Active leisure time	3 (1.9)
		Sport	23 (14.8)	Doing sports	16 (10.3)
				Exercises	7 (4.5)
		Passive rest	9 (5.7)	Good, quality sleep	5 (3.2)
				Good rest	4 (2.5)
		Rest and work routine	2 (1.3)	Proper rest and work routine	2 (1.3)
Healthy nutrition	46 (30.0)	Quality nutrition	36 (23.6)	Healthy nutrition	32 (21.0)
				Appropriate/favourable for health nutrition	2 (1.3)
				Full value nutrition	2 (1.3)
		Balanced nutrition	10 (6.4)	Balanced nutrition	9 (5.8)
				Moderate nutrition	1 (0.6)

TABLE 2

Emotional status	26 (16.4)	Positive attitude (position)	13 (8.3)	Good mood	6 (3.8)
				Love to yourself	2 (1.3)
				Positive emotions	2 (1.3)
				Positive attitude to life	2 (1.3)
				Positive lifestyle	1 (0.6)
		Stress management	10 (6.3)	Safe emotional environment	4 (2.5)
				Stress management	3 (1.9)
				Stress avoidance	2 (1.3)
				Ability to overcome stress	1 (0.6)
		Inner harmony	3 (1.8)	Physical, psychic and emotional health harmony	1 (0.6)
				Emotional stability	1 (0.6)
				Psychic health nurturing	1 (0.6)
Health quality	26 (16.4)	Health care	18 (11.4)	Good feeling	10 (6.4)
				Hygiene skills	3 (1.9)
				Sticking to an appropriate day routine	2 (1.3)
				Positive behaviour towards health changes	1 (0.6)
				Health strengthening	1 (0.6)
				Ability to understand medical information	1 (0.6)
		Bad habit prevention	8 (5.0)	Avoiding, not having bad habits	8 (5.0)

Note: 156 semantic units were distinguished

The most significant category was *Rest and work harmony* (37.2%). It is obvious that the harmony between rest and work occupied an important place in kindergarten teachers' healthy lifestyle understanding. Here active rest (physical activity, active lifestyle, organism strengthening, active leisure time) sport (doing sports, exercises) occupied a very important position, passive rest – less important.

The second category *Healthy nutrition* (30.0%) was of great importance as well. Quality nutrition (healthy, appropriate, full value nutrition) and balanced nutrition were especially accentuated.

The third category *Emotional status* (16.4%) and the fourth category *Health quality* (16.4%) had the same significance.

Positive attitude (good mood, love to yourself, positive emotions, positive attitude to life, positive lifestyle) and stress control (safe emotional environment, stress avoidance and ability to overcome it) occupied an important position in the category *Emotional status*.

In the category *Health quality* (16.4%), the biggest attention was paid to health care (good feeling, hygiene skills, sticking to an appropriate daily routine, positive behaviour towards health changes, health strengthening) and to bad habit prevention.

On the basis of the respondents' answers, the formulated four categories allow stating that kindergarten teachers understand healthy living habits / healthy lifestyle as a harmonious human state, where positive emotional and physical states match between themselves. Rest and work harmony, healthy nutrition, active physical activity, emotional state, health quality are very important here.

Having examined kindergarten teachers' position about health literacy improvement possibilities, three categories were distinguished: *Educational events, Constant learning/ improvement, Help a kindergarten teacher.* Results are presented in Table 3.

TABLE 3

Kindergarten teachers' health literacy improvement possibilities

Category	*N* (%)	Subcategory	*N* (%)	Subcategory components	*N* (%)
Educational events	91 (70.5)	Teaching organisation	67 (52.4)	Organisation of seminars on health	33 (26.5)
				Lectures about healthy lifestyle	15 (11.5)
				Special courses	10 (7.7)
				Learning about health	4 (3.0)
				Information dissemination	3 (2.3)
				Special TV programmes	1 (0.7)
				Informational leaflet publishing	1 (0.7)
		Practical events	16 (12.0)	Participation in thematic teachings	4 (3.0)
				Sharing the experience	4 (3.0)
				Active participation in health projects	3 (2.3)
				Practical teachings	2 (1.5)
				Participation in sport events	2 (1.5)
				Health care summer camps	1 (0.7)
		Medical workers' help	8 (6.1)	Collaboration with public health professionals	6 (4.6)
				Health specialist consultations	2 (1.5)

TABLE 3

Constant learning	33 (25.2)	Self-education	22 (16.8)	Self-education	8 (6.2)
				Active interest in health questions	4 (3.0)
				Interest in various information sources	3 (2.3)
				Interest in health novelties	3 (2.3)
				Deepen knowledge about health	3 (2.3)
				Interest in disease prevention	1 (0.7)
		Personal development	11 (8.4)	Personal interest	5 (3.8)
				Personal interest in healthy living	6 (4.6)
Help a kindergarten teacher	6 (4.3)	Organisation influence	3 (2.1)	Healthy living nurturing in the institutions	1 (0.7)
				Optimal workload in the institution	1 (0.7)
				Health hours	1 (0.7)
		Appropriate literacy	3 (2.2)	Appropriate health literacy	2 (1.5)
				Health literacy is sufficiently good	1 (0.7)

Note: 130 semantic units were distinguished

The first category *Educational events* (70.5%) was of exceptional importance. In kindergarten teachers' opinion, educational process could help to promote/improve their health literacy. First of all, *teaching organisation* (52.4%) could be of great help. Kindergarten teachers indicated that organisation of seminars on health, lectures about healthy lifestyle, special courses, information dissemination, special TV programmes, etc., would be useful. Kindergarten teachers also accentuated *practical event* (26.5%) importance in promoting/improving kindergarten teachers' health literacy. Here, the research participants stated that active participation in thematic, practical teachings, health care projects, sport events, health care summer camps, sharing experience would improve health literacy. Improving health literacy, *medical workers' help* (6.1%), i.e., specialist consultations, collaboration with public health specialists would be useful.

The second, according to importance, was the category *Constant learning/improvement* (25.2%). A great importance here, promoting / improving kindergarten teachers' health literacy, was devoted to *self-education* (16.8%) (active interest in health questions, various information sources, health novelties, disease prevention), and to *personal improvement* (8.4%).

The third category *Help a kindergarten teacher* (4.3%) was least important. Improving kindergarten teachers' health literacy, organization's impact 3 (2.1%) (healthy lifestyle nurturing in the institutions, optimal workload in the institution, etc.) had an influence.

Having examined kindergarten teachers' answers about their abilities necessary to find information about health, to understand it, estimate and apply, three categories were distinguished, which reflect ability levels. The results are presented in Table 4.

TABLE 4

Personal abilities to find information about health, to understand it, estimate and apply

Category	*N* (%)	Subcategory	*N* (%)	Subcategory components	*N* (%)
Perfect abilities	135 (91.4)	Informational abilities	53 (36.5)	Able to find information online	38 (26.4)
				Able to find information about health	6 (4.0)
				Able to understand information about health	5 (3.4)
				Able to find information in medical publications	4 (2.7)
		Self-development	40 (27.0)	Read the press	18 (12.2)
				Read various literature	10 (6.7)
				Get information through TV programmes	4 (2.7)
				Constantly interested and renew information about health	3 (2.0)
				Like to read articles about health	3 (2.0)
				Able to renew my knowledge about health	2 (1.4)
		Active self- education	18 (12.1)	Attend seminars on health topics	12 (8.2)
				Attend lectures about health	4 (2.7)
				Participate in various health care actions	1 (0.6)
				Participate in prevention programmes	1 (0.6)
		Practical abilities	17 (11.2)	Able to apply the possessed knowledge about health	7 (4.7)
				Abilities are very good	4 (2.7)
				Trying to apply the accumulated knowledge and experience in practice	2 (1.4)
				Able to apply some strengthening procedures	1 (0.6)
				Able to take affirmative to healthcare decisions	1 (0.6)
				Feel having competence in this field	1 (0.6)
				Abilities are perfect	1 (0.6)
		Healthy lifestyle promotion	7 (4.6)	Accumulated health knowledge pass to children	5 (3.4)
				Encourage children to live healthy	1 (0.6)
				By personal example encourage others to live healthy	1 (0.6)
Average abilities	11 (7.4)	Good abilities	11 (7.4)	Have enough information	4 (2.7)
				Abilities basically are good	4 (2.7)
				Abilities are average	2 (1.4)
				I am enough educated	1 (0.6)
Satisfactory abilities	2 (1.2)	Weak abilities	2 (1.2)	Abilities are satisfactory because of lack of will	1 (0.6)
				Practical abilities in health sphere are poor	1 (0.6)

Note: 148 semantic units were distinguished

The first category *Perfect abilities* (91.4%) was of particular importance and showed that kindergarten teachers valued very highly their abilities necessary to find information, to understand it, estimate and apply. They highly valued their *informational abilities* (37.0%). They claimed that they were able to search for information online, to find information about health, to find information in medical publications. A big part of kindergarten teachers valued perfectly their *self-education ability* (27.0%). They identified that they read press, various literature about health, got information through TV programmes, were constantly interested in information about health, liked reading articles about health, were able to renew their knowledge. Kindergarten teachers' statements about their abilities necessary to find information about health, to understand it, estimate and apply allowed claiming that *active self-development* (12.1%) helped to keep perfect afore-mentioned abilities. They claimed that they actively attended seminars, lectures on health topics, participated in various health care actions, prevention programmes. A part of kindergarten teachers accentuated their *practical abilities* (11.2%). Kindergarten teachers claimed that they were able to apply the accumulated knowledge and experience in practice, were able to use strengthening procedures, to take affirmative healthcare decisions, felt having competence in this field. Only a small part of kindergarten teachers thought that they had perfect healthy lifestyle promotion abilities (4.6%): passed accumulated knowledge about health to their children, encouraged children to live healthy, by their personal example encouraged others to live healthy.

The second category *Average abilities* (7.4%) was not of big significance. It showed that only a small part of kindergarten teachers, valued on average their abilities necessary to find information, understand it, estimate and apply.

The third category *Satisfactory abilities* (1.2%) was of very little significance and showed that very few kindergarten teachers valued satisfactorily their abilities necessary to find information about health, understand it, estimate and apply.

It was examined how the respondents valued health literacy significance in the education process. Two categories were distinguished, the structure of which is presented in Table 5.

The first category *Great significance* (92.4%) occupied a particularly high position. The research results allow stating that especially many kindergarten teachers understood that educator's health literacy was of great significance in the education process. A big part of kindergarten teachers thought that educator's health literacy had *versatile significance* (41.9%) because an educator strengthens the learners' abilities on healthy lifestyle questions, motivates children to live properly, develops physical activity, is able convey his knowledge to children and so on. Research result analysis allows stating that *kindergarten teacher's example influence* (30.1%) is very important because teacher is the best example, kindergarten teacher is a perfect "tool" conveying understanding about healthy lifestyle, a pedagogue himself has to set an example and so on. *Kindergarten*

TABLE 5

Kindergarten teachers' health literacy significance in the education process

Category	*N* (%)	Subcategory	*N* (%)	Subcategory components	*N* (%)
Great significance	107 (92.4)	Versatile significance	48 (41.9)	Great significance	22 (19.6)
				Particularly great significance	10 (8.6)
				Pedagogue strengthens the abilities of the learners on healthy lifestyle questions	3 (2.6)
				Kindergarten teacher motivates children to live properly	3 (2.6)
				Kindergarten teacher's literacy is of great importance	3 (2.6)
				Kindergarten teacher's contribution is big	3 (2.6)
				Development of physical activity is important	2 (1.7)
				Encouragement is very significant	1 (0.8)
				Kindergarten teacher is able to convey her knowledge to children	1 (0.8)
		Kindergarten teacher's example influence	35 (30.1)	The best teacher is an example	18 (15.5)
				Kindergarten teacher is a perfect "tool" conveying understanding about healthy lifestyle	6 (5.2)
				The pedagogue himself has to set an example	5 (4.3)
				The role of a kindergarten teacher is big	4 (3.4)
				Kindergarten teacher is a universal example	2 (1.7)
		Kindergarten teacher's attitude influence	14 (11.9)	Kindergarten teacher's positive attitude to healthy lifestyle is important	5 (4.3)
				Kindergarten teacher has to know healthy lifestyle principles	3 (2.6)
				Pedagogue's positive thinking about healthy lifestyle	2 (1.7)
				It is not difficult to convey knowledge to children if a kindergarten teacher is interested himself	2 (1.7)
				Kindergarten teacher must understand the benefit of healthy lifestyle	1 (0.8)
				It is important for the kindergarten teacher to be interested in health	1 (0.8)
		Children's attitude formation	10 (8.5)	Pedagogue's health literacy influences children's attitude to health	6 (5.2)
				Helps to create in children a positive attitude to health	2 (1.7)
				It is important because pedagogues shape the learners' attitude and behaviour	1 (0.8)
				Kindergarten teacher forms a constructive attitude to healthy lifestyle	1 (0.8)

Table 5

Slight significance	9 (7.6)	Partial significance	5 (4.2)	Kindergarten teacher's role is rather important	2 (1.7)
				Kindergarten teacher's health literacy is sufficiently important	2 (1.7)
				Various health care actions are very important	1 (0.8)
		Family function	4 (3.4)	Kindergarten teacher's significance is of minor importance because family is most important	4 (3.4)

Note: 116 semantic units were distinguished

teacher's attitude influence (11.9%) was of great importance. Kindergarten teachers stated that kindergarten teacher's positive attitude to healthy lifestyle, positive thinking about healthy lifestyle were important. They thought that it was not difficult to convey knowledge about health to children if the educator himself was interested in health, understood healthy lifestyle benefits. Therefore, according to kindergarten teachers, educator's health literacy was of great significance for *children's attitude formation* (8.5%). Kindergarten teachers claimed that educator's health literacy helped to form children's constructive attitude to healthy lifestyle, shape their behaviour, helped to instil in children a positive attitude about healthy lifestyle.

The second category *Slight significance* (7.6%) revealed that only a small part of kindergarten teachers claimed that educator's health literacy was only partially significant for the child or it was of minor importance. Family function was to teach students to live healthy.

Discussion

The conducted research aim was to examine kindergarten teachers' position about health literacy. The obtained results revealed a sufficiently wide, exhaustive kindergarten teachers' health literacy understanding (knowledge about health, practical behaviour, healthy lifestyle promotion). On the other hand, lack of knowledge and ability was noticed in this sphere. It was already noticed that there was a great shortage of this sphere research in Lithuania. Kalinkevičienė, Česnavičienė and Ustilaitė (2016) ascertained a similar situation, when the conducted research showed that sufficient and excellent health literacy in health care sphere was characteristic of only 30.4% teachers, in disease prevention sphere – of 38.3% teachers, and health strengthening sphere – of 25.4% teachers. Knowing what important influence on the child's knowledge acquisition, skill and habit formation has education institution and teachers, it is obvious that it is important to provide kindergarten teachers with the support promoting health literacy competence. As Whitley, Smith and Vaillancourt (2012) accentuated,

teachers' health literacy which comprises knowledge about health, abilities to find information about health, understand it, estimate and apply in everyday life, accept decisions in order to keep life quality, has influence on the effective children's health development. The conducted research shows that in kindergarten teachers' health literacy conception, basically there is no place for disease prevention component. The latter is very significant in health literacy structure because this is both taking up a bigger responsibility for health, on the other hand, bigger attention devotion to health at the individual, family or community levels (Bröder et al., 2017). On the other hand, health education in a wider sense is directed and conscious efforts to deepen knowledge about health preservation and strengthening ways, and also to instil a positive attitude to healthy way of living. According to Gudžinskienė et al. (2007), health education, namely, is most of all related to disease prevention and prophylaxis. In preschool education institution, kindergarten teachers work in close collaboration with family. It is obvious that parents have to work together with teachers, one cannot reach good results setting apart from the family. This aspect is poorly expressed in kindergarten teachers' health understanding structure.

Kindergarten teachers' attitude to healthy lifestyle is in essence adequate to an existing conception, however, the results show that one is being concentrated more to healthy nutrition, rest and work harmony aspects. Physical activity component, for example, is much less expressed. Thus, in preschool education institutions, it is necessary to seek to carry out a purposeful, complex, integrated activity in healthy nutrition, physical activity encouragement, disease prevention and other spheres. Passing a more meaningful teachers' personal healthy lifestyle experience to the learners and their families should become a priority educational activity direction. The research conducted in Slovenia also showed that kindergarten teachers acquired most of their knowledge about healthy way of living during their schooling (Slabe et al., 2016).

Health literacy promotion should remain a priority professional development direction. Though health knowledge is not the weakest link in teachers' knowledge system, however, there is lack of practical experience development. The research results allow claiming that kindergarten teachers insufficiently value the possibilities to get such support from the institution itself. Besides, kindergarten teachers' attitude in the aspect of health literacy promotion remains rather traditional. It is thought that educational events, self-education and so on, suit best for this. The other researchers notice similar results, which accentuate that specific interventional professional development programmes are necessary for kindergarten teachers (Liu et al., 2018), besides, bigger attention should be devoted to the kindergarten teachers' health strengthening importance understanding, this should be an inseparable part of their constant teaching programme (Pantanowitz et al., 2016). Thus, it is very important that healthy lifestyle educational programmes were implemented in preschool education

institutions, educational work of society was carried out (Bačiulienė & Zaborskis, 2004). According to researchers, preschool education institutions experience an increasing pressure to take more responsibility and initiatives for the kids` health habits (Sansolios & Mikkeslen, 2011).

The obtained research results allow stating that kindergarten teachers basically appropriately understand their personal role strengthening the learners' health and forming their health competence. An example component is particularly accentuated. As researchers notice, an appropriate adults', in this case, kindergarten teachers' example is very significant (Strukčinskienė, Raistenskis, et al., 2012; Strukčinskienė, Griškonis, et al., 2012). It is obvious that in Lithuania, the level of preschool age children's physical activity is too low, therefore, it is necessary to implement various means for its promotion (Strukčinskienė, Raistenskis, et al., 2012). Researchers also agree that one of the duties of preschool education institution is to help perceive the process of healthy lifestyle (Adaškevičienė, 2004), they have to take up a certain responsibility for health preservation competence development, health improvement (Bislytė, 2018).

The conducted research helped to better understand kindergarten teachers' health literacy structure. It was revealed that the expression of the disease prevention and prophylaxis component was rather weak. Despite the fact that informational abilities in health sphere are good, practical abilities are poorly expressed. It is obvious that first of all, teachers themselves have to develop healthy lifestyle competence, constantly strengthen health literacy in order health literacy programme is rationally realised. There are many studies in Lithuania analyzing the peculiarities of people's healthy lifestyle, but the significance of health literacy in maintaining and strengthening health has so far been little studied (especially in the kindergarten teacher population). Teacher (kindergarten teacher in particular) health literacy is poorly researched not only in Lithuania but also in the world context, although health is defined as a value. One of the directions for further research is the analysis of the relations between kindergarten teachers' health literacy and lifestyle patterns. The second significant direction is the analysis of the influence/impact of kindergarten teacher health literacy on effective child health education.

Conclusions and Implications

Research result analysis allows claiming that kindergarten teachers' health literacy understanding comprised four components: *knowledge about health*, *information about health management*, *health promotion*, *practical behaviour*. It can be seen that kindergarten teachers' health literacy understanding was more concentrated to knowledge about health, its development and information about health management than to practical health aspect: health promotion, practical behaviour.

Kindergarten teachers understood healthy lifestyle/healthy living habits as a harmonious human state, which consisted of *rest and work harmony, healthy nutrition*, *emotional status*, *health quality*. *Rest and work harmony* and *healthy nutrition* were particularly accentuated.

It is obvious that seeking to promote/improve kindergarten teachers' health literacy, various *educational events*: *teaching organisation, practical events, medical workers' help* would be of great help. It has been stated that a big part of kindergarten teachers indicated *constant learning/improvement* in seeking high health literacy. Self-education was particularly accentuated. Only a small part of kindergarten teachers stated that seeking to promote/improve health literacy, they needed help which could be provided by educational institution.

One can state that a particularly big part of kindergarten teachers valued excellent their abilities necessary to find information about health, to understand it, estimate and apply. Very few kindergarten teachers, having participated in the research, valued those their abilities *on average* and particularly few – *satisfactorily*.

A particularly big part of kindergarten teachers stated that an educator's health literacy educating (teaching) children to live healthy was of *great significance*. Educators' health literacy educating (teaching) children to live healthy has *versatile significance* and *educator's example influence*, his attitude influence is particularly significant. An educator *forms children's attitude*. A very small part of kindergarten teachers stated that an educator's health literacy educating (teaching) children to live healthy had a *slight significance* and that it was *family function*.

Personal abilities, necessary to find information about health, to understand it, estimate and apply were valued very high. Whereas healthy lifestyle was understood as a harmonious human state.

One has to note that health literacy understanding was more concentrated to knowledge about health, its development and information about health management than to practical health aspect. Poor attention was devoted to health promotion, knowledge conveyance, children's health competence development. Therefore, it is necessary to develop kindergarten teachers' competence to provide children with knowledge about health, to form their health literacy, to teach to live healthy.

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