HEALTH LITERACY OF MOTHERS IN PUERPERIUM

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Abstract

There are vast researches on the health literacy of whole populations as well as researches focused on particular groups. But there is still a group, whose levels of the health literacy are concealed - mothers in puerperium.

Puerperium is a turbulent period, mothers not only need to cope with all the physical changes after delivery, but also with all the psychical challenges, new social roles and very demanding new task represented by caring of a new human being. Women in this period may lack help and information, as the provided information address much more to pregnancy and delivery and just a little to the puerperium.

This article presents the results of a small research which was carried out a in the hospital in Svitavy, the Czech Republic. It shortly describes the phenomenon of health literacy and puerperium. General health literacy was examined by the EU-16 standardized questionnaire. The final number of participants was 103, the research was conducted from November 2020 to February 2021.

In both fields, mothers had showed adequate levels of health literacy, however, the results are still far from excellent. These results indicate the need for continual exploration of health literacy, creating better conditions for women in puerperium for their self-development and finding the optimum ways for motivating women in puerperium to deepen and extend the level of their health literacy by different manners - for example: antenatal courses, cooperation with field midwives or studying of literature which should be created for these purposes.

Keywords: *health literacy, level, puerperium, mothers, motherhood*

1. INTRODUCTION

"Health literacy implies the achievement of a level of knowledge, personal skills and confidence to take action to improve personal and community health by changing personal lifestyles and living conditions. Thus, health literacy means more than being able to read pamphlets and make appointments. By improving people's access to health information, and their capacity to use it effectively, health literacy is critical to empowerment." (World Health Organization 1998, p. 10) Increasing health literacy leads to healthier individuals and thus to healthier populations and it represents solid tool to improve physical health same as well-being. (Holčík 2010)

Puerperium, representing probably the most changeable period of a life of a woman is a very information demanding time. Health literacy in post-partum period is gaining new and further importance, yet only minimum of research was done focused on the topic of health literacy in puerperium. (Olecká & Ivanová 2016) The new life role of motherhood is a key factor for both physical and psychical health and well-being of child. One of the most important reasons why, is that the mother represents the decision-maker in the care of health and well-being of her child. (Ivanová et al 2018)

Even though adequate health literacy seems to be a crucial parameter of future health of children and families, solid researchers on this particular topic are missing. Research of literature for the purposes of the study was conducted using databases Google Scholar, PubMed, MEDVIK, Scopus, Web of science, EBSCO. The combination of key words used was: „health literacy "„motherhood ", „mothers ", „puerperium" and its Czech equivalents, as it was searched for literature in English and Czech language.

The search was limited to specific time period: 1.1. 2000-24.6. 2020, it wasn't limited to specific design of studies. See Fig.1.

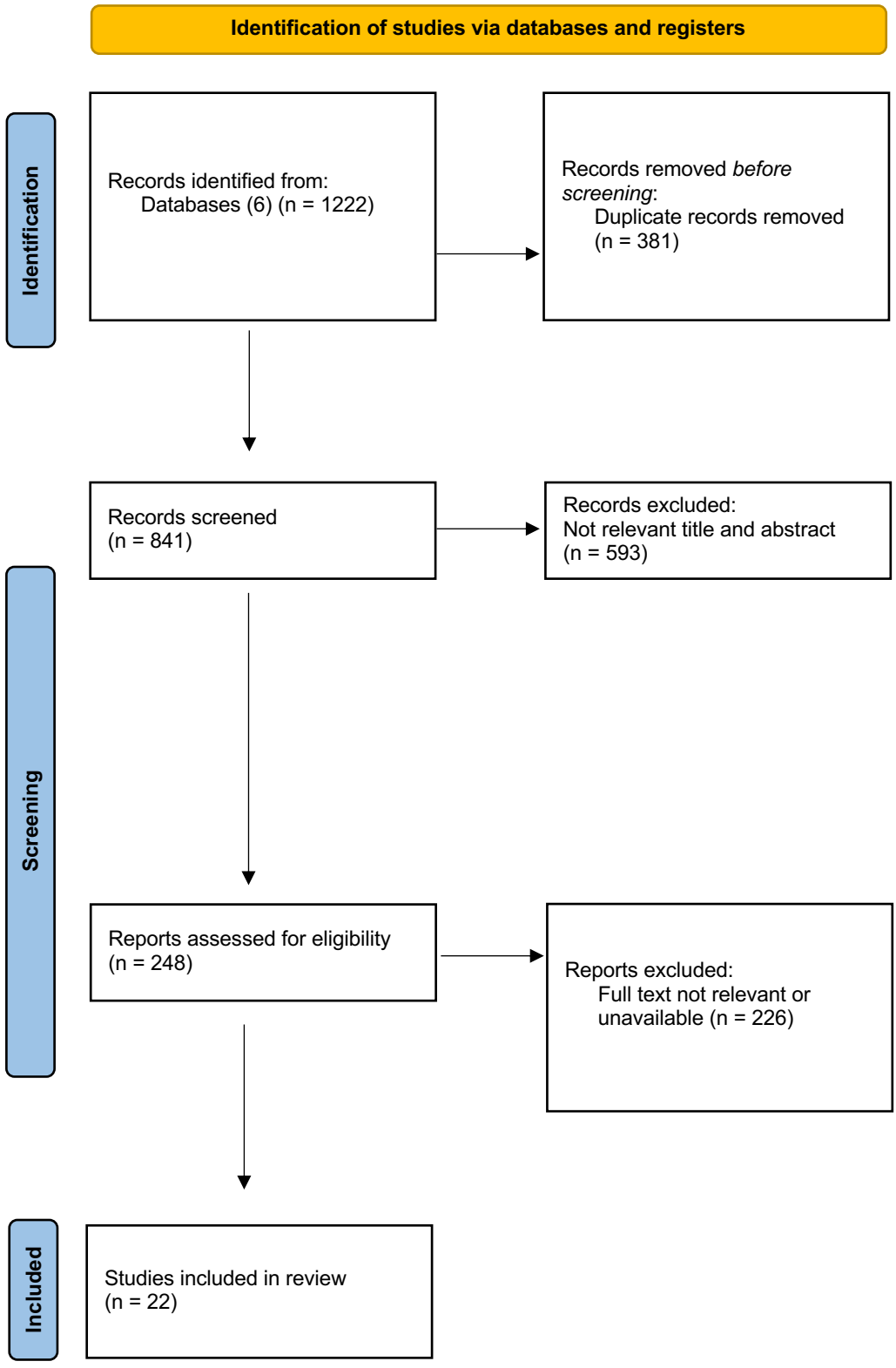


Fig. 1. *PRISMA DIAGRAM. Tepmplate from:* Page MJ, McKenzie JE, Bossuyt PM, Boutron I, Hoffmann TC, Mulrow CD, et al. The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. BMJ 2021;372:n71. doi: 10.1136/bmj.n71

The aim of this paper was to describe the general health literacy of mothers in puerperium in Svitavy region, The Czech Republic, with use of HLS-EU-Q16 standardized questionnaire and compare it with the results of study of Kučera, Pelikan & Šteflová (2016), which described health literacy of general population in Czechia.

2. MATERIALS AND METHODS

2.1. Materials

Respondents were presented by women in puerperium, who gave birth in Svitavská nemocnice, Nemocnice Pardubického kraje, a.s., Czech Republic. Data was collected from the women which were hospitalised at post-partum ward after the delivery (usually from first to third day after the delivery) from November 2020 to February 2021. The final number of participants was 103.

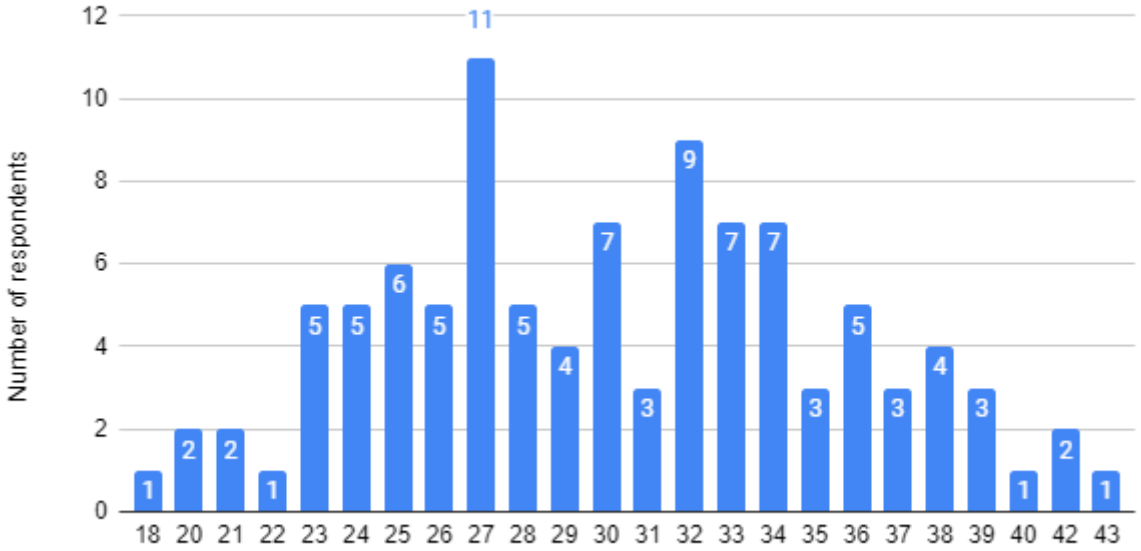


Fig. 2. Age of respondents

The participants were from 18 to 43 years of age. The most often age was 27, average age was 30,2 years (See Fig.2). Average age of primiparas was 28,4 and multiparas 32,2 years. As for number of pregnancies, 42,2% was pregnant for the first time, 40,2% for the second time and 11,8% for the third time. Maximal number of pregnancies was five (2 women). For the 52% this was their first delivery, for the 37,3% second delivery, for 8,8% third delivery. The difference between number of pregnancies and deliveries is due to pregnancy loss - interruptions and miscarriages. Mothers in average took care about 1,61 babies, which applies for fertility. The way of birth was also inquired. In Svitavy, the number of caesarean sections is usually lower, than what national average is. According to Czech Ministry of Health average percentage of caesarean sections in Czech Republic was 24% in 2018 (Ministerstvo Zdravotnictví České Republiky 2019). In the examined hospital, the percentage of caesarean sections in 2019 was 15,36%. In the examined sample, most of the women had vaginal delivery - 85,3%. The percentage of caesarean sections was 10,8% and 4 of interviewed women had operational delivery by vacuumextration of foetus. Marital status of the respondents was as follows 48% married, 44,1% single and 7,8% divorced. This question was an open style question, and no other option was mentioned. Speaking of highest achieved education, this question was also open, and respondents stated either elementary school (primary education), high school (secondary education) or university. Highest education achieved on the level of elementary education had 4,9% respondents. 55,9% had secondary education and university had 39,2% of women. That was very surprising, compared to data, that was available in the time of preparation of the questionnaire, from census made in 2011, only 7,8% of women

in the Svitavy region had university education. (Český statistický úřad 2013) As we have now new statistic data from latest census from 2021, the percentage of women in Svitavy region with university is higher, represented by 14,6% for district of Pardubice, where Svitavy region belongs to. Currently, more specific data are not available. (Český statistický úřad 2022) Presumable clarification maybe in the fact, that number of people with university education in the Czech Republic is increasing, also most of the women in this study were children or teenagers at the time when the census which was used to comparison was made - year 2011. See Fig.3.

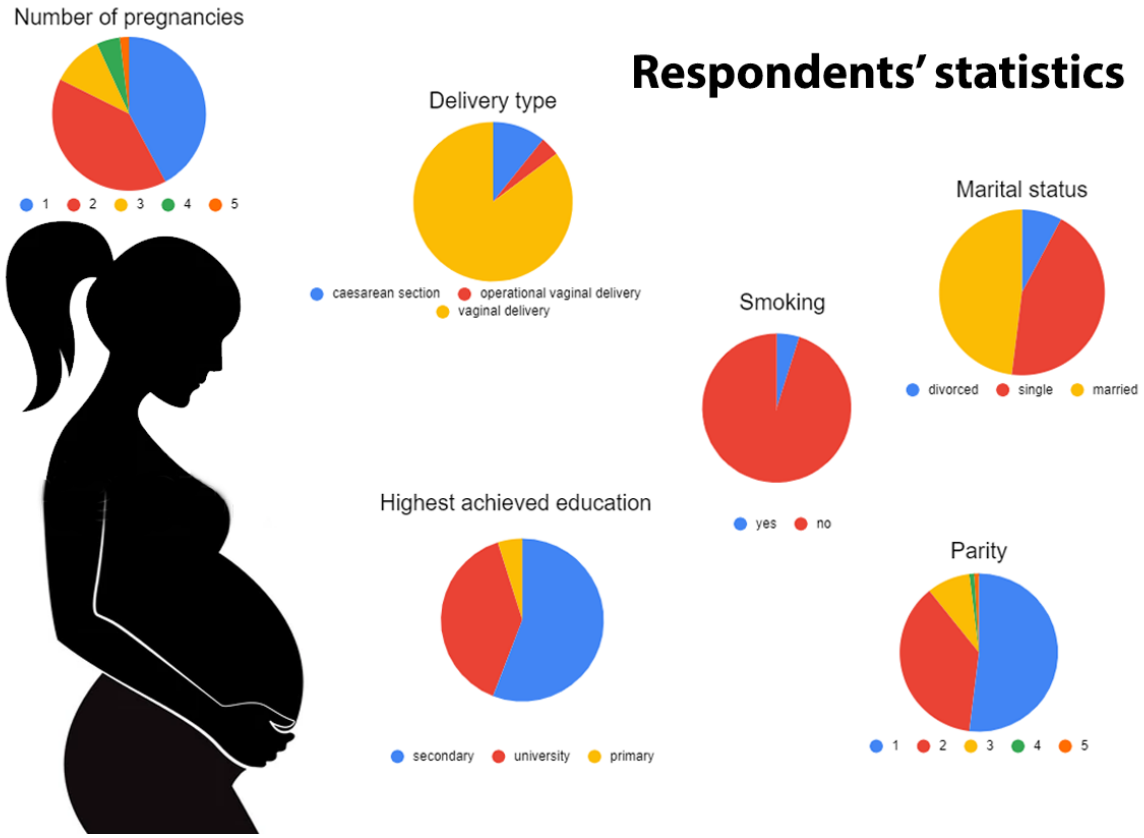


Fig. 3. Respondents' statistics

2.2. Methods

The research was designed as prospective quantitative study. The data was conducted from November 2020 to February 2021 with use of HLS-EU-Q16 standardized questionnaire. The HLS-EU-Q16 is set up from 16 questions and examines health literacy in the field of health care, disease prevention, health promotion and general health literacy. Using specific measurement tools, it divides health literacy in to 4 categories: Inadequate (0-25 points), Problematic (26-33 points), Adequate (34-42 points) and Excellent (43-50 points). The Czech translation of the questionnaire was provided by Dr. Nejedlá from The National Institute of Public Health of the Czech Republic.

Demographic data was also inquired such as: age, number of pregnancies and deliveries, education, marital status, and the type of delivery. Question whether the respondent smoke was as well added. Totally 170 questionnaires were given out, each containing accompanying letter with information about the research. 111 questionnaires were given back, 8 of them was discarded for incompleteness. All of them were then computerized and statistically processed.

3. RESULTS

From the health literacy in the field of health care the results were as follows: inadequate level showed only 2,94% of respondents, problematic level 29,41%. It means that 1/3 of respondent had deficient level of health literacy. Adequate level had shown 40,2% and excellent 27,45% of respondents. See Table 1.

	Health literacy in health care (HC-HL)		
Points	**Level**	**Number of respondents**	**Percentage**
0-25	Inadequate	3	2.94 %
26-33	Problematic	30	29.41 %
34-42	Adequate	41	40.2 %
43-50	Excellent	28	27.45 %

Table 1. Health literacy in health care of mothers in puerperium in Svitavy region

In the field of disease prevention health literacy, the mothers had shown the poorest results. Almost 1/10 (9,8%) showed inadequate and 43,14% showed problematic levels. More than a half of sample showed insufficient level of health literacy in disease prevention. See Table 2.

	Health literacy in disease prevention (DP-HL)		
Points	**Level**	**Number of respondents**	**Percentage**
0-25	Inadequate	10	9.8 %
26-33	Problematic	44	43.14 %
34-42	Adequate	29	28.43 %
43-50	Excellent	19	18.63 %

Table 2. Health literacy in disease prevention of mothers in puerperium in Svitavy region

Speaking of health literacy in health promotion, in this research, inadequate health literacy showed 6,86% of respondents, almost one third of respondents had problematic level (24,51%). Adequate levels showed 37,25% and 31,37% scored excellent results. See Table 3.

	Health literacy in health promotion (HP-HL)		
Points	**Level**	**Number of respondents**	**Percentage**
0-25	Inadequate	7	6.86 %
26-33	Problematic	25	24.51 %
34-42	Adequate	38	37.25 %
43-50	Excellent	32	31.37 %

Table 3. Health literacy in health promotion of mothers in puerperium in Svitavy region

Overall, as for the general health literacy only one third of mothers showed insufficient levels: 2,94% had shown inadequate, respectively 31,37% showed problematic level. Adequate level had 46,08% and excellent 19,61%. See Table 4.

	General health literacy (GHL)		
Points	**Level**	**Number of respondents**	**Percentage**
0-25	Inadequate	3	2.94 %
26-33	Problematic	32	31.37 %
34-42	Adequate	47	46.08 %
43-50	Excellent	20	19.61 %

Table 4. General health literacy of mothers in puerperium in Svitavy region

Complete results are shown in Fig. 4.

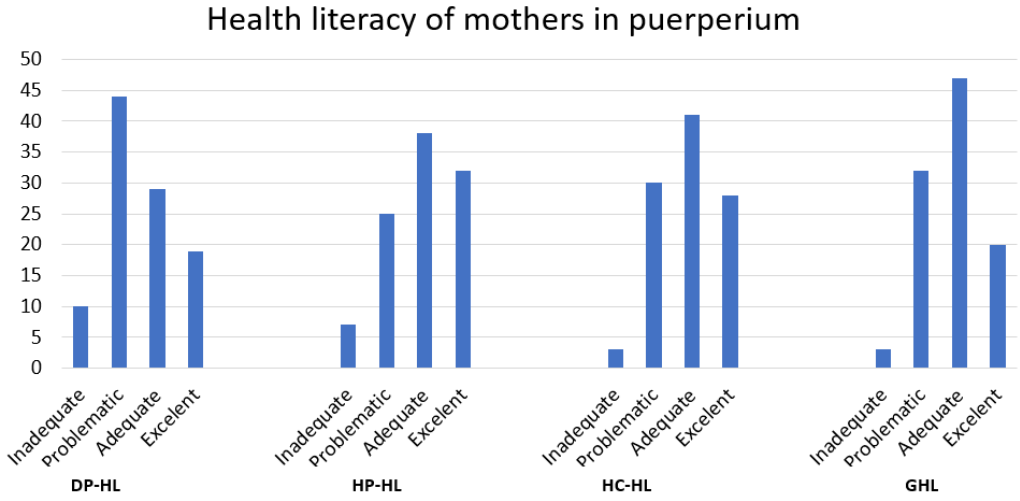


Fig. 4. Health literacy of mothers in puerperium

4. DISCUSSION

The health literacy is with no hesitation crucial parameter of health of individuals as well as populations and presents one of the most examined topics of public health and offers new opportunities of improving general health and well-being. As Ivanová states, *it is presented by combination of health education, prevention of diseases, promotion of health, ability of the individual to be well-versed in health system, to gain, process and use information about lifestyle. All together it should be conglomerate of knowledge and skills which enables the individual to maintain, improve and safe their health. Government, health systems, health care systems, non-profitable organizations working in health business, education systems, employers, and individuals, they all should strive for developing of health literacy.* (Ivanová 2014, p. 3)

It is now without discuss that the health itself is not created in hospitals or doctor's offices. World tends to transfer the responsibility for someone's health to the hands of the patients-clients. Health status is created at homes, schools, offices, all the places, where people live, relax, work and age. Hospital serves only as a place where the health is repaired and often it cost a lot of effort, material and money. Exertion leading to promotion of health of whole population is long-term and exhausting, it cannot be changed

fast. Cultures need to raise healthy, literate children, who will get proper education and became responsible and assure economically strong society. (Holčík 2010)

The aim of this paper was to compare the results to the results of research of Kučera, Pelikan & Šteflová (2016), who examined the health literacy of Czech population using 47-questions questionnaire exploring health literacy in same fields as this research, and which replicated comparative research conducted in eight EU states. (Sørensen et al. 2015) Respondents were selected from all regions of the country; total number was 1037 respondents over 16 years. In the Czech Republic the health literacy is still an issue. From this latest survey of health literacy in the Czech Republic emerged upsetting results, from all the 1037 participants, 59,4 % of population showed inadequate or problematic level of health literacy. Comparing to European research of 8 countries (Austria, Bulgaria, Germany, Greece, Spain, Ireland, Netherlands, Poland) together with Bulgaria, The Czech Republic took one before last respectively last place. The survey focused on 3 different spheres of health literacy: disease prevention, health care, health promotion and on general health literacy. Czechia had the worst results in the sphere of health promotion. Adequate level in this field had only 1/3 of respondents. It was showed that the health literacy does not depend on sex, but it depends on age, decreasing from 40 years and more and it also depends on financial deprivation and education. It likewise links to higher cost of health care systems (Kučera, Pelikan & Šteflová 2016). As the population, health systems, information sources and technologies evolve, new attempts are rising to create a new term, that would more accurate describe general and effective use of health-related information, such as "Health information fluency" suggested by Ancker et al. (2020). This paper shows the results referring to general health literacy examined by use of HLS-EU-Q16 standardized questionnaire. Compared to the survey of whole Czech population, mothers in Svitavy get well results. The results were calculated for a new rate and the maximum points they could get was 50. They scored better that the rest of population in all the examined fields. The best managed part was presented in Health promotion, which was the most complicated part for the rest of the population. Even in comparison with the rest of the European population (8 countries) would mothers in puerperium in this study took second place with their average score in general health literacy (37) right behind Netherlands (37,1) and would outperform rest of European population and their average score 33,8. (Kučera, Pelikan & Šteflová 2016) See Fig. 5.

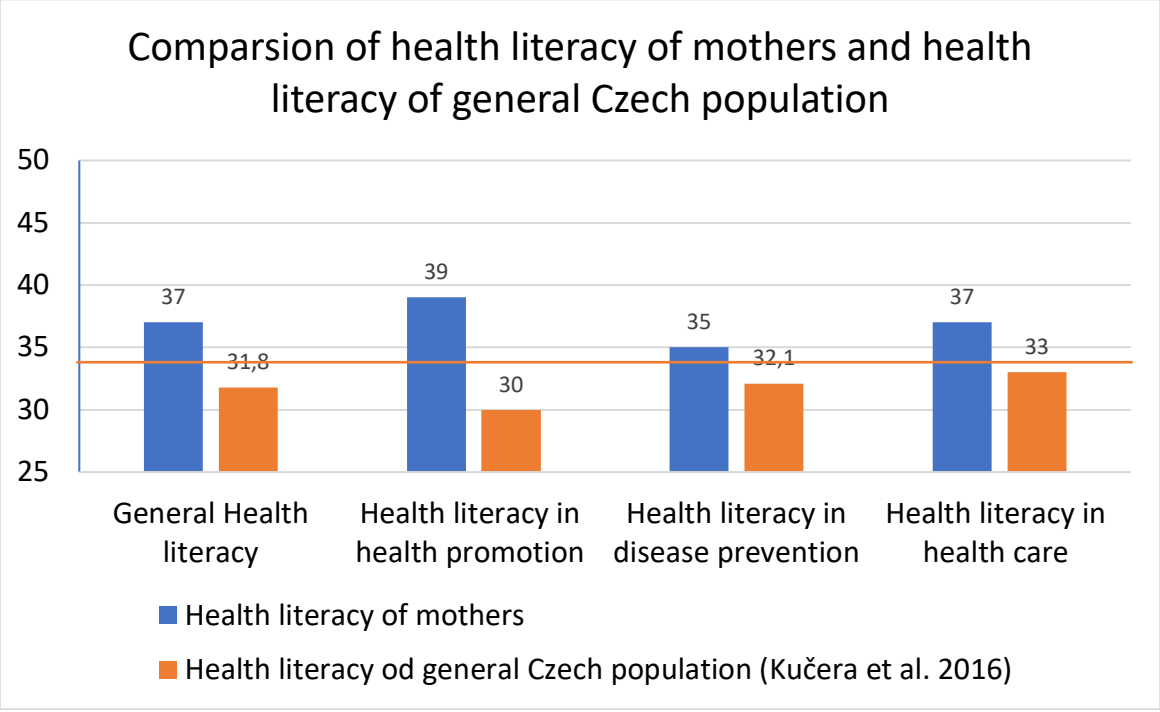


Fig. 5. Comparison of health literacy of mothers and health literacy of general Czech population

Even though the results look promising, we can see, that the adequate level starts at 34 points (red line in fig.5.), therefore mothers are keeping their score at the lower boundary line and are still far from excellent. There is a still a place for improving health literacy in puerperium.

With recent findings, health literacy now represents much more than just knowledge and skills, not only for mothers it is represented by wide scale of needs that opens into well-being of the mother. (Olecká, Ivanová & Mihál 2016) Kohan et al. claim that health literacy of women is one of the most important factors that affect the health of the family and infant mortality rate. Inadequate levels of the health literacy are also accompanied with undesirable social phenomenons such as increasing of cost of health care, increasing of morbidity, mortality, and frequency of adverse effects of therapy. (Kohan, Ghasemi & Dodangeh 2007) As said by Ferguson, maternal health literacy should be in the spotlight, thus pregnancy is for many women first time, when they meet health care system, also the health literacy of mother directly influences the health of the child not only while being pregnant and in post-partum period but also in the pre-conception period. (Ferguson 2008)

As was already mentioned, studies that would interest in health literacy in puerperium are missing, even though it is very dynamic period and time, which mothers spend at the beginning in hospital, it should be full of useful and specific information. In many studies and strategic health plans are mothers chosen as a bearers of the family's health status. But do we pay enough attention to them? Do they have appropriate conditions to cope with all the tasks given by society like raising children, housekeeping, career and providing good health and well-being of the family? Almost twenty years ago Wilkinson and Marmot in WHO document underlined the importance of childhood for future health of a person. Proper start of a life means supporting mothers and infants, health impact of the beginning of the life make itself felt for whole lifetime. Foundations of health are built from prenatal life. Slow growth and inadequate emotional support may lead to lower physical, cognitive, and emotional functions in adulthood. All the adverse affairs such as poor diet, stress, smoking, using of drugs and alcohol, physical inactivity and lack of health care may lead to suboptimal development of foetus. (Wilkinson & Marmot 2003)

Puerperium, post-partum period was historically set aside as time exclusively chosen for mother and her child. In our culture, they used to be separated by a canvas in a particular part of a room and almost no one was able to see a new mother, as she needs to rest and prepare for a new role. Nowadays some modern nations send mother back to work almost immediately after the delivery. Do mothers have proper access to valid information they need in the still reducing time they have to take care of their family? And if so, is their level of a health literacy high enough to understand this information and to use them in a way to prevent diseases and improve their health and well-being? In addition to formal education for mothers-to-be during schooling, health literacy needs to be integrated into lifelong learning. Ideal conditions for implementing health literacy are found, for example, in non-formal education. Non-formal education is based on activity, varied and diverse activities, volunteering, gaining experience and group learning. (Pospíšilová 2010) Non-formal education can also focus on self-development. (UNESCO Institute for Statistics, 2012) As a result, it provides young people with valuable experiences for their lives.

Puerperium is the time period presented by 6 weeks after the delivery, when the body changes back to the conditions almost the same they were before the delivery. Not only the uterus and breast are changing, but also pelvic and abdominal muscles, external genitals, bones, skin and other systems are undergoing vivid changes. We cannot forget psychical changes, often very challenging, not rarely leading to post-partum blues, post-partum depression or at worst psychosis. Mother in puerperium represents a very tricky patient, if we add the fact, that pathological conditions can be fatal, it places new mother to the role of most dangerous patient. The reasons are multiple. First, puerperal women often somatise, post-partum blues or depression is frequent and often it manifests by variable somatic symptoms. Mothers tend to dissimulate - play down or deny their problems. They are afraid of hospitalization, they don't want to be separated from their child, as there are afraid that no one else is able to give their child proper care. Also, the level of compliance can be lowered as they tend to avoid any medication that they might think may harm their child. Additionally, they may skip recommended

check-ups or examination because they prefer well-being of their child. Furthermore, the physical changes, such as flaccid abdominal muscles can aggravate differential diagnostics. (Čepický 2018)

Even with indisputable role of health literacy, researchers still avoid examining health literacy of fertile female population - mothers and women in puerperium, although it was mentioned many times, the health literacy of mother plays a key role in the health of family. As Wilhellmová and Hrubá states, the health literacy of mothers relays the most on the level of their education. This could confirm good results of women after delivery in Svitavy and their frequent high school and university education. On contrary, these authors also state, that the women subjectively feel their habits and level of knowledge better, than it objectively is. (Wilhelmová & Hrubá, 2013)

Motherhood is nowadays very complicated life period. It is on one hand due to many available information which may be hard to classify and find the relevant ones, proceed right decisions about health of herself as well as about health of her child as the mother wants the best for her child generally, not only if we are speaking of health care. On the other hand, some of the pregnant women and women in post-partum period want to avoid medicalization and medicinalization of their pregnancy and puerperium, try to cut some of both obligatory and mandatory health care, which they may find redundant. This may lead to a conflict which is hard for mainly a first-time mothers to solve. Whether they would prefer more observed pregnancy and motherhood by using all means of modern health care our health care system is providing or if they choose more traditional and natural form of care of her pregnancy, birth and puerperium leading for example to cutting the health care to a bare minimum, using services of field midwives or doulas, home birth etc. Their decision-making process is surely influenced by many different factors, for instance level of their education, health status, cultural and sociological environment, spirit of their closest family and friends and last, but not least, health literacy.

5. CONCLUSIONS

The aim of this paper was to describe the general health literacy of mothers in early puerperium in Svitavy region. The results were acceptable, but still far from excellent. In all the researched fields - health literacy in health promotion, disease prevention, health care and general health literacy, mothers outperformed the rest of Czech population when compared to Kučera, Pelikan & Šteflová (2016) research researching general Czech population. When compared to European research, they would be placed in second place right behind the population of Netherland. With average score of the heath literacy on the lower boundary of adequate level it is visible, there is still a space for improving the level of the health literacy of mothers in puerperium, regarding to the role of health and life quality bearer of family they are often being assigned. Also, we still lack a specific tool to measure health literacy of post-partum women and we still require well-worked out methods to increase health literacy of this group such as specific and understandable literature, different ante- and post-natal courses, collaboration with field midwifes - this just can be the beginning of the new era of high health literate mothers and healthier and happier families.

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REFERENCES

1. World Health Organization 1998, *Health Promotion Glossary,* Division of Health Promotion, Education and Communications (HPR), Health Education and Health Promotion Unit (HEP), Switzerland, viewed 20 July 2022, <http://apps.who.int/iris/bitstream/handle/10665/64546/WHO_HPR_HEP_98.1.pdf;jsessionid=71ADA3A91A329A8E85BA8A83E0EF1734?sequence=1>.
2. Holčík, J 2010, *Systém péče o zdraví a zdravotní gramotnost*, MU, Brno.
3. Olecká, I & Ivanová, K 2016, 'Health literacy of primiparae in the first six months of maternity: review', *Central European Journal of Nursing and Midwifery*, vol. 7, no. 3, pp. 494-503, viewed 18 July 2022, <https://cejnm.osu.cz/en/artkey/cjn-201603-0006_zdravotni-gramotnost-matek-prvorodicek-v-prvnim-pulroce-materstvi-prehledova-studie.php>.
4. Ivanová, K, Olecká, I, Vencová, B & Juríčková, L 2018, 'Health literacy of mothers in the first year of motherhood - Expert interpretation map', *Kontakt,* vol. 20, no. 4, pp. 361-367, viewed 16 January 2022, < https://kont.zsf.jcu.cz/pdfs/knt/2018/04/04.pdf >.
5. Kučera, Z, Pelikan, J & Šteflová, A 2016, 'Zdravotní gramotnost obyvatel ČR − výsledky komparativního reprezentativního šetření', *Časopis Lékařů Českých*, vol. 155, no. 5, pp. 233-241, viewed 19 July 2022, <https://www.prolekare.cz/casopisy/casopis-lekaru-ceskych/2016-5/download?hl=cs>.
6. Český statistický úřad 2013, *Obyvatelstvo, domy, byty a domácnosti podle Sčítání lidu, domů a bytů - ČR, kraje, okresy, SO ORP, správní obvody Prahy a města (sídla SO ORP) - 2011,* Český statistický úřad, viewed 16 January 2022, < https://www.czso.cz/csu/czso/obyvatelstvo-domy-byty-a-domacnosti-podle-scitani-lidu-domu-a-bytu-2011-cr-kraje-okresy-so-orp-spravni-obvody-prahy-a-mesta-sidla-so-orp-2011-egrhq6c4dz>.
7. Ministerstvo zdravotnictví České republiky 2019, *V roce 2018 klesl počet předčasných porodů a císařských řezů, ukázala data ze všech porodnic v ČR,* Ministerstvo zdravotnictví České republiky, viewed 20 January 2022, <https://www.mzcr.cz/tiskove-centrum-mz/v-roce-2018-klesl-pocet-predcasnych-porodu-a-cisarskych-rezu-ukazala-data-ze-vsech-porodnic-v-cr/>.
8. Český statistický úřad 2022, *Sčítání 2021. Vzdělání,* Český statistický úřad, viewed 10 July 2022, <https://www.czso.cz/csu/scitani2021/vzdelani>.
9. Ivanová, K 2014, *Veřejné zdravotnictví a zdravotní gramotnost*, viewed 16 January 2022, < https://edis.upol.cz/fzv/elarning/eln_subjects-27072/mode-0/subj_print-1/>.
10. Sørensen, K, Pelikan, JM, Röthlin, F et al. 2015, 'Health literacy in Europe: comparative results of the European health literacy survey (HLS-EU)', *Eur J Pub Health*, vol. 25, no. 6, pp. 1053−1058, viewed 20 July 2022, <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4668324/>.
11. Ancker, JS, Grossman, LV & Benda, NC 2020 'Health Literacy 2030: Is It Time to Redefine the Term?', *Journal of General Internal Medicine,* vol. 35**,** pp. 2427-2430, viewed 16 January 2022, <https://doi.org/10.1007/s11606-019-05472-y>.
12. Olecká, I, Ivanová, K & Mihál, V 2016, 'Pilotní studie potřeb prvorodiček s dítětem v symbiotickém období života v oblasti zdravotní gramotnosti', *Profese online*, vol. 9, no. 2, pp. 1-9, viewed 20 January 2022, <https://profeseonline.upol.cz/artkey/pol-201602-0001_Pilotni_studie_potreb_prvorodicek_s_ditetem_v_symbiotickem_obdobi_zivota_v_oblasti_zdravotni_gramotnosti.php>.
13. Kohan, S, Ghasemi, S & Dodangehm, M 2007, 'Associations between maternal health literacy and prenatal care and pregnancy outcome', *Iranian Journal of Nursing and Midwifery Research,* vol. 12, no. 4, pp. 146 - 152, viewed 16 January 2022, <https://www.researchgate.net/publication/228506454_Associations_between_maternal_health_literacy_and_prenatal_care_and_pregnancy_outcome>.

14. Ferguson, B 2008, ˈHealth Literacy and Health Disparities: The Role They Play in Maternal and Child Healthˈ, *Nursing for Women's Health,* vol. 12, no. 4, pp. 286-298, viewed 16 January 2022, <https://www.researchgate.net/publication/23182587_Health_Literacy_and_Health_Disparities_The_Role_They_Play_in_Maternal_and_Child_Health>.
15. Wilkinson, RG & Marmot, M 2003, *Social determinants of health: the solid facts,* 2nd edn, World Health Organization, Copenhagen, viewed 20 July 2022, <https://www.euro.who.int/__data/assets/pdf_file/0005/98438/e81384.pdf>.
16. Pospíšilová, H 2010, ˈVýchova k hodnotám v neformálním vzdělávánˈ, in H. Pospíšilová (ed.), *Mládež, hodnoty a volný čas*, Hanex, pp. 29-46.
17. UNESCO Institute for Statistics 2012, *International standard classification of education: ISCED 2011*, UNESCO Institute for Statistics, viewed 18 July 2022, <http://www.uis.unesco.org/Education/Documents/isced-2011-en.pdf>.
18. Čepický, P (ed.) 2018, *Kapitoly z diferenciální diagnostiky v gynekologii a porodnictví*, Grada Publishing, Praha.
19. Wilhelmová, R & Hrubá, D 2013, ˈDeterminanty zdravotní gramotnosti těhotných ženˈ, *Praktická gynekologie,* vol. 17, no. 3, pp. 244-251, viewed 3 March 2022, < https://www.prolekare.cz/casopisy/prakticka-gynekologie/2013-3/determinanty-zdravotni-gramotnosti-tehotnych-zen-41821>.