Journal of Midwifery and Nursing, 6 (2) (2024) pp. 464-469
Published by:IOCSCIENCE
Journal of Midwifery and Nursing
Journal homepage:www.iocscience.org/ejournal/index.php/JMN

The Influence of Health Education on the Interest of TM III Pregnant Women in Screening for Congenital Hypothyroidism in Newborn Babies

Shalsabila Febryanti Darmawan[1], Dwi Hartati[2], Chandra Sulistyorini[3], Risnawati[4]
[1,2,3,4]Midwifery, Institut Teknologi Kesehatan Dan Sains Wiyata Husada Samarinda, Samarinda, Indonesia

ARTICLEINFO

Article history:

Received Apr 4, 2024
Revised Apr 5, 2024
Accepted Apr 15, 2024

Keywords:

Babies;
Congenital Hypothyroid Screening;
Interests.

ABSTRACT

Congenital hypothyroidism screening is a screening to select babies who suffer from congenital hypothyroidism from babies who are not sufferers by taking 2-3 drops of blood from the baby's heel. A preliminary study at PMB Midwife Endang in December 2023 found data on the number of normal births of 32 people who underwent congenital hypothyroidism screening with 11 people. It shows that mothers still have low interest in doing Congenital hypothyroidism screening because, on average, they do not know about Congenital hypothyroidism screening, so they are less motivated. Mothers have never been given health education about Congenital hypothyroidism screening. This study aimed to determine the influence of health education on the interest of the third semester of pregnant women in screening for congenital hypothyroidism in newborns. This study used Pre-experimental with one group pre and post-test design. The population was 36 in the third semester of pregnant women at PMB Endang Yuniyati Napitupulu in January, with a sample of 30 people taken using a total sampling technique. The instrument was a questionnaire. Data analysis used the Wilcoxon test. This study showed that before being given health education, most respondents were not interested in doing congenital hypothyroidism screening on their babies (73.3%), and after being given health education, most respondents were interested in doing Congenital hypothyroidism screening on their babies (76.7%). There was an influence of health education on the interest of the third-semester of pregnant women in screening for congenital hypothyroidism in newborns (p-value = 0.000 < α: 0.05).

This is an open access article under the CC BY-NC license.

Corresponding Author:

Shalsabila Febryanti Darmawan,
Midwifery,
Institut Teknologi Kesehatan Dan Sains Wiyata Husada Samarinda,
Jl. Kadrie Oening Gang Monalisa No.77, Air Hitam, Kec. Samarinda Ulu, Samarinda City, East Kalimantan 75243, Indonesia
Email: febryantishalsabila02@gmail.com

1. Introduction

Congenital hypothyroidism is a condition of decreased or non-functioning of the thyroid gland since the newborn, which occurs due to anatomical abnormalities or metabolic disorders in the formation of thyroid hormones or iodine deficiency.(Yasmin, 2022), Congenital hypothyroidism (SHK) screening is a screening/screening test to select babies who suffer from congenital hypothyroidism from babies who do not suffer from it.(Noflidaputri & Meilinda, 2021), by taking 2-3 drops of blood from the baby's heel and then examining it in the laboratory and if the results are positive, the baby must be treated

immediately before he is 1 month old to avoid disabilities, growth and development disorders, mental and cognitive retardation(Hanum, 2020).

The prevalence of Congenital Hypothyroidism throughout the world is estimated at 1:3000 with a very high incidence in iodine deficiency areas, namely 1:300-900. The prevalence of Congenital Hypothyroidism varies greatly between countries and based on gender, the incidence rate is twice as high in girls compared to boys. In Asian countries including Singapore 1:3000-3500, Malaysia 1:3026, Philippines 1:3460, Hong Kong 1:2404, the lowest in Korea 1:4300 and Vietnam 1:5502(Radhia et al., 2023).

The number of congenital hypothyroid screening samples in Indonesia in 2020 was around 92,876, the highest was 38,569 in Central Java, 30,865 in East Java and 4,050 in East Kalimantan.(RI Ministry of Health, 2021). Data from hospital referral laboratories for congenital hypothyroid screening such as RSUP. Dr. Cipto Mangunkusumo Jakarta which carried out congenital hypothyroid screening from 2000 to September 2014. The screening results showed 85 positive babies out of 213,669 babies with a ratio of 1:2513 births. It appears that this figure is higher than the global prevalence of 1:3000 births. Second, data from Hasan Sadikin Hospital in Bandung obtained from a review of medical records at the endocrine clinic shows that 70% of babies were diagnosed with congenital hypothyroidism for more than 1 year and 2.3% were diagnosed at under 3 months of age. Of the 2.3% of babies experiencing minimal growth and development retardation, while 70% experience permanent mental retardation(Deriyatno, 2019).

Based on the results of a preliminary study conducted by researchers at PMB Endang Yuniyati Napitupulu, data on the number of TM III pregnant women in December was 32 people who were interested in carrying out Congenital Hypothyroid Screening, 11 people (34%). This can show that there is still low interest in TM III pregnant women in carrying out Congenital Hypothyroid Screening (SHK) because on average all TM III pregnant women do not know about Congenital Hypothyroid Screening so they refuse to carry out Congenital Hypothyroid Screening on their babies, therefore it needs to be done maximum health education by health workers, especially midwives, so that TM III pregnant women know and understand and are willing to carry out this Congenital Hypothyroid Screening.

In general, the impact of congenital hypothyroidism can be disability and overall physical growth disorders and for the family it becomes a psychological and economic burden to care for children with mental retardation, then it also has an impact on the country which will increase the state's burden to cover education for children with special needs and the nation's generation. be of poor quality(Pritama, 2019) and one of the government's programs in implementing primary care transformation which emphasizes promotive preventive efforts, namely by requiring all babies born in Indonesia to be examined for Congenital Hypothyroidism Screening to detect if there is a risk of abnormalities in the child's growth and development considering that the majority of cases of Congenital Hypothyroidism do not show symptoms, so that parents are not aware of it and typical symptoms only appear with age(Anggraini et al., 2017).

Results of research carried outRadhia et al., (2023)with the title "The Effect of Health Education on the Knowledge and Attitudes of Pregnant Women regarding Newborn Hypothyroid Screening in the Kawal Health Center Working Area", shows that there is an increase in pregnant women's knowledge about Congenital Hypothyroid Screening before and after being given health education. Health education can improve attitudes in a positive direction. Mothers who receive health education about screening for congenital hypothyroidism will tend to have a positive attitude (tendency to screen for congenital hypothyroidism). This is also in accordance with research conducted by Juliani (2019) that a person's attitude is closely related to sources of information, for example mass media, electronic media, manuals, health workers, posters, leaflets.

Providing health education regarding hypothyroid screening to mothers needs to be done to increase mothers' knowledge and interest about the importance of screening for congenital hypothyroidism in babies so that it is hoped that the coverage of congenital hypothyroid screening will increase and more children will receive optimal treatment as early as possible.(Deriyatno et al., 2019).

Providing health education can be done using media including leaflets because in the leaflets there are pictures that can make mothers interested in reading them, they can be taken home so that post-partum mothers can read them again at home. Leaflets are also able to help TM III pregnant women to better understand what is being explained, because leaflet media is a medium that combines facts with clear ideas through a number of interesting words, photos, images and TM III pregnant women can not only use their senses. by listening, but TM III pregnant women can also use their sense of sight, namely by looking at and reading leaflets(Adila et al., 2023). Providing health education at PMB Midwife Endang will use leaflet media so that it is hoped that TM III pregnant women will be interested in carrying out Congenital Hypothyroid Screening on their babies.

Based on the data above, researchers are interested in researching "The influence of health education on the interest of TM III pregnant women in carrying out congenital hypothyroidism screening for newborns at PMB Bidan Endang, Berau Regency". It is hoped that this research will have an impact on increasing the interest of TM III pregnant women in carrying out Congenital Hypothyroid Screening after receiving health guidance so that cases of children with disabilities and mental retardation can be immediately identified and treated.

This study may increase awareness and understanding of the importance of screening for congenital hypothyroidism (SHK) in newborns among trimester III (TM III) pregnant women. This will help in early detection of the risk of congenital hypothyroidism and prevent its negative impact on child development and is expected to prevent the negative impact of congenital hypothyroidism on children's growth and development. By detecting and treating this condition as soon as possible, it can reduce the risk of physical disability, developmental disorders and mental retardation in children.

2. Research Methods

This study used pre-experimental research methods. Pre-experimental research is research that is used if the researcher wants to know the causal effect between the independent and dependent variables, with a one group pre and post test design. In this study, researchers only took the variable of health education as an independent variable (free variable) and interest as a dependent variable (dependent variable). The population in this study were third trimester pregnant women at PMB Bidan Endang Berau Regency in February 2024 totaling 36 people and the entire population was used as a research sample. In this study, validity test, reliability test and normality test were conducted using SPSS program.

3. Results and Discussions

In this research, we will look at the influence of health education on the interest of TM III pregnant women in screening for congenital hypothyroidism in newborns. In this research, the characteristics of the respondents will be presented first, including age, education and occupation. Before analyzing the data, the characteristics of the respondents will first be displayed as follows:

Univariate Analysis

Respondent Characteristics

The characteristics of the respondents presented consist of age, education and occupation.

Mother's Age

Based on research data, the characteristics based on maternal age can be seen as follows:

Table 1
Characteristics of Respondents Based on Age of TM III Pregnant Women at PMB Midwife Endang, Berau Regency

Mother's Age	Frequency (n)	Percentage (%)
<19 years old	2	6,7
20-35 years	21	70
>35 years	7	23.3
Amount	30	100

Source: Primary Data, 2024

Based on the table above, it can be explained that the majority of respondent mothers were aged 20-35 years, namely 21 people (70%) and the least mothers were <19 years old, namely 2 people (6.7%).

Mother's Education

Based on research data, the characteristics based on maternal education can be seen as follows:

Table 2
Characteristics of Respondents Based on Education of TM III Pregnant Women at PMB Midwife Endang, Berau Regency

Mother's Education	Frequency (n)	Percentage (%)
elementary school	8	26.7
JUNIOR HIGH SCHOOL	5	16.7
SENIOR HIGH SCHOOL	13	43.3
PT	4	13.3
Amount	*30*	*100*

Source: Primary Data, 2024

Based on the table above, it can be explained that the majority of respondent mothers had a high school educational background, namely 13 people (43.3%) and the least number of mothers had a higher education background, namely 4 people (13.3%).

TM III Pregnant Women's interest in carrying out SHK on newborn babies before being given health education

To identify the interest of TM III pregnant women in carrying out SHK on newborn babies before being given health education at PMB Midwife Endang, Berau Regency, it can be seen in the table below:

Table 3
Frequency distribution of TM III pregnant women's interest in carrying out SHK on newborn babies before being given health education

Interest	Frequency (n)	Percentage (%)
Not interested in doing SHK	22	73.3
Interested in doing SHK	8	26.7
Amount	30	100

Source: Data Processing, 2024

Based on the table above, it can be explained that the interest of TM III pregnant women in carrying out SHK on newborn babies before being given health education at PMB Midwife Endang, Berau Regency, most of them are not interested in doing SHK on their babies, namely 22 people (73.3%) and are interested in doing SHK in babies, namely 8 people (26.7%).

TM III Pregnant Mothers' Interest in carrying out SHK on newborn babies after being given Health Education

To identify the interest of TM III pregnant women in carrying out SHK on newborn babies after being given health education at PMB Midwife Endang, Berau Regency, you can see the table below:

Table 4
Frequency distribution of TM III pregnant women's interest in carrying out SHK on newborn babies after being given health education

Interest	Frequency (n)	Percentage (%)
Not interested in doing SHK	7	23.3
Interested in doing SHK	23	76.7
Amount	30	100

Source: Data Processing, 2024

Based on the table above, it is explained that the interest of TM III pregnant women in carrying out SHK on newborn babies after being given health education at PMB Midwife Endang, Berau Regency, most of them are interested in doing SHK on their babies, namely 23 people (76.7%) and are not interested in doing SHK on there were 7 babies (23.3%).

Bivariate Analysis

To analyze the influence of health education on the interest of TM III pregnant women in carrying out SHK on newborn babies at PMB Bidan Endang, it can be seen in the table below:

Table 5
The influence of health education on the interest of TM III pregnant women in carrying out SHK on newborn babies at PMB Bidan Endang

Variable	N	Negative Ranking	Positive Rank	Ties	Sig	Z
Health education regarding the interest of TM III pregnant women in carrying out SHK on newborn babies	30	0	15	15	0,000	-3,873

Source: Primary Data, 2024

4. Conclusion

From the results of research and discussion regarding the influence of health education on pregnant women's interest in screening for congenital hypothyroidism (SHK) in newborns at PMB Bidan Endang, Berau Regency, it was concluded that the characteristics of respondents were mostly 20-35 years old, 21 people (70%) , 13 people (43.3%) had high school education and 19 people (63.3%) worked as housewives, the interest of TM III pregnant women in carrying out SHK on newborn babies before being given health education at PMB Midwife Endang, Berau Regency the majority were not interested in doing SHK on their babies, namely 22 people (73.3%) and were interested in doing SHK on their babies, namely 8 people (26.7%), TM III pregnant women were interested in doing SHK on newborn babies after being given health education at Most PMB Midwives in Endang, Berau Regency are interested in doing SHK on their babies, namely 23 people (76.7%) and are not interested in doing SHK on their babies, namely 7 people (23.3%), there is an influence of health education on the interest of TM III pregnant women in doing it. screening for congenital hypothyroidism (SHK) in newborn babies at PMB Bidan Endang, Berau Regency, (p value: 0.000 < α: 0.05).

References

Adila, M., Supriyanto, & Safitri, S. (2023). Pengaruh Penerapan Media Cetak Berbasis Leaflet Terhadap Hasil Belajar Siswa Pada Mata Pelajaran Sejarah Di Kelas X Sma Negeri 1 Indralaya. *Jurnal Elektronika dan Otomasi Industri*, *10*(1), 9–17. https://doi.org/10.33795/elkolind.v10i1.2744

Anggraini, R., Patria, S. Y., & Julia, M. (2017). Ketepatan Waktu Pelayanan Skrining Hipotiroidism Kongenital di Yogyakarta. *Sari Pediatri*, *18*(6), 436. https://doi.org/10.14238/sp18.6.2017.436-42

Damayanti, R., & Ekacahyaningtyas, M. (2019). *Hubungan Tingkat Pengetahuan Tentang Hipotiroid Kongenital Dengan Tingkat Kecemasan Ibu Nifas Menghadapi Skrining Hipotiroid Kongenital Pada Bayi Baru Lahir.*

Deriyatno, G. (2019). Hubungan antara Tingkat Pendidikan, Pengetahuan dan Sikap Ibu terhadap Skrining Hipotiroid Kongenital (SHK) di BKMIA Kartini Purwokerto. *Proceedings of the Institution of Mechanical Engineers, Part J: Journal of Engineering Tribology*, *224*(11), 122–130.

Deriyatno, G., Sumarwati, M., & Alvian, G. (2019). Hubungan antara Tingkat Pendidikan, Pengetahuan dan Sikap Ibu terhadap Skrining Hipotiroid Kongenital (SHK) di BKMIA Kartini Purwokerto. In *Proceedings of the Institution of Mechanical Engineers, Part J: Journal of Engineering Tribology* (Vol. 224, Nomor 11).

Febriati, L. D., Rahayu, P. P., & Zakiyah, Z. (2020). Hubungan Karakteristik dengan Praktik Komplementer Kebidanan. *Seminar Nasional UNRIYO*, *1109*, 211–219.

Hanum, F. (2020). *Gambaran Pengetahuan Ibu Hamil Trimester III Tentang Skrining Hipotiroid Kongenital (SHK) Di Puskesmas Kecamatan Grogol Petamburan* (Nomor July). Poltekkes Jakarta III.

Kemenkes RI. (2021). *Gambaran Skrining Hipotiroid Kongenital di Indonesia*. Ikatan Dokter Anak Indonesia.

Noflidaputri, R., & Meilinda, V. (2021). Analisis Evaluasi Pelaksanaan Shk Pada Bayi Baru Lahir Di Wilayah Kerja Dinas Kesehatan Kota Solok. *Human Care Journal*, *6*(1), 75. https://doi.org/10.32883/hcj.v6i1.1027

Notoatmodjo, S. (2018). *Metologi penelitian kesehatan.* Jakarta : Rineka Cipta.

Pratama. (2019). Hubungan Awitan Pengobatan Hipotiroid Kongenital dengan Gangguan Perkembangan Anak di Rumah Sakit Umum Pusat Dr. Hasan Sadikin. *Sari Pediatri*, *21*(1), 16. https://doi.org/10.14238/sp21.1.2019.16-23

Radhia, M. Z., Asmawati, D., & Rahmawati, I. (2023). Pengaruh Pendidikan Kesehatan terhadap Pengetahuan dan Sikap Ibu Hamil tentang Skrining Hipotiroid Bayi Baru Lahir di Wilayah Kerja Puskesmas Kawal. *Journal on Education*, *6*(1), 3431–3440. https://doi.org/10.31004/joe.v6i1.3412

Sakdiyah, S. H., & Ekasari, T. (2023). *Efektivitas Media Leaflet Terhadap Pengetahuan Ibu Hamil Tentang Tablet Tambah Darah*. *1*, 1–9.

Septiani, R., & Lestari, G. I. (2020). Hubungan Karakteristik Bidan dengan Praktik Kebidanan Komplementer di Praktek Mandiri Bidan. *Jurnal Ilmiah Keperawatan Sai Betik*, *15*(2), 114. https://doi.org/10.26630/jkep.v15i2.1695

Yasmin, N. R. (2022). Gambaran Hasil Skrining Hipotiroid Kongenital (SHK) Berdasarkan Topografi Wilayah di Kota Bandar Lampung pada Bulan Mei - Oktober Tahun 2019. *Universitas Lampung*, *2019*, 1–57.