Original Article

Knowing and Applying Non-Pharmacological Methods Used in Labor Pain Control of Health Workers in Delivery Rooms

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Abstract

Objectives: The research was carried out to determine the knowledge and practice of non-pharmacological methods (NFMs) used in labor pain (LP) control of Health Care Workers (HCWs) working in labor wards.

Methods: The data in this descriptive and cross-sectional study were obtained from HCWs working in the labor units of all hospitals in a province in western Turkey. The analysis was carried out using Chi-square and regression analysis with a p-value of less than 0.05 statistically significant.

Results: It was determined that 66.1% of the HCWs knew about NFMs, 33.9% had insufficient/no knowledge about NFMs, 41.3% applied NFMs, and 59.7% rarely/never applied. The most well-known NFMs were breathing techniques (91.7%) and movement-position (91.7%). Most applied NFMs were breathing techniques (87.2%) and movement-position (84.4%). The HCWs working in private hospitals were 13.09 times more likely to apply NFMs and 4.06 times more likely to know, compared to those working in the university hospital. Those who knew/stated that they knew NFMs were 5.64 times more likely to apply NFMs than those who did not. According to the type of institution, the difference between the knowledge and application of NFMs by the HCWs was statistically significant (p<0.001).

Conclusion: It will be important and useful to develop policies to implement NFMs in health institutions, and to encourage HCWs to use these methods.

Keywords: healthcare workers, labor pain, non-pharmacological methods, knowledge, application.

Background

Pain caused by an unpleasant stimulus is a complex and personal experience with sensory, emotional, and social characteristics. It affects millions of people every day and reduces people's quality of life (Treede, 2018). One of the most severe pain sources known and defined is considered to be labor pain (LP), which also constitutes our study subject (Aziato, Acheampong, and Umoar, 2017).

Although labor is a natural process, LP is difficult to tolerate and negatively affects the health of the mother and fetus (Smith et al., 2020). LP is associated with anxiety, fear, and stress and can be affected by many psychological and physical factors (Jones et al., 2012; Akkoz Cevik, and Karaduman, 2020). For this reason, although the perceived severity of LP varies from person to person, it is known that primiparas experience more LP than multiparas (Melzack, 1993; Kmehchian et al., 2020).

Control of LP is one of the main goals of care for women who have given birth. The aim of the methods used in the management of LP is to reduce the pain directly without causing any negative effects on the mother and the baby; and to help the woman and those around her have a positive birth experience (Chu et al., 2017; Smith et al., 2020). Although the traditional medical approach advocates the use of pharmacological methods in the management of LP, the tendency to Non-Pharmacological Methods (NFMs) and Complementary/Alternative Medicine (CAM) applications has increased due to the potential side effects on the mother and fetus and the cost of using them (Zahra and Leila, 2013; Ozgoli et al., 2016). NFMs and CAM applications used in the control of LP are NFMs applied in restoring people's health in parallel with scientific medicine. They are generally easily applicable and inexpensive methods by HCWs (Zahra and Leila, 2013; Smith et al., 2020). The four NFMs used in LP are relaxation techniques, sensual stimulation methods, respiratory techniques, mental and mental stimulation techniques. Relaxation techniques are defined as hypnosis, music, hypno-birthing, movement and position, yoga, and biological feedback. Sensual stimulation methods are called touch and massage, effleurage and sacral pressure, superficial hot-cold applications, acupuncture, acupressure, reflexology, homeopathy, aromatherapy, subcutaneous electrical nerve stimulation (TENS), and intradermal sterile water injection. Breathing techniques are practices that help the mother to relax and relax during labor. Mental stimulation techniques are also grouped under two headings as daydreaming and focus (Jones et al., 2012; Smith et al., 2020).

It is not possible to give precise data on the use of NFMs in Turkey due to the lack of records on the subject and the insufficient number of studies. Moreover, it is stated that most of the NFMs are not known enough in our country yet, and the number of HCWs who know and apply the methods is quite low (Turan et al., 2010; Ulutas and Bekar, 2018). Regarding the stated reasons, this study was conducted to determine the knowledge and practice of NFMs used in LP control; and to determine the effects of sociodemographic and occupational characteristics on the knowledge and practice of NFMs used in LP control of the HCWs working in the obstetrics clinics of hospitals located in a city center in the western part of Turkey. It is aimed that the results obtained from this study will shed light on the preparation of training programs for HCWs and contribute to the more widespread application of NFMs by HCWs in labor rooms in the future.

Materials and Methods

The study produced from the first author's thesis was conducted between March 2018 and January 2019 in the labor units of all 6 public and private hospitals with labor clinics in a city center called Eskisehir located in the west of Turkey.
Sample selection was not made for the research, the entire universe was included in the study group. The research consisted of 125 HCWs working in the labor units of 6 hospitals in the city center. Midwives, physicians, and nurses who took part in the labor process of women were included in the HCW group. It was planned to include the entire universe in the research, but 16 health personnel could not participate in the study due to various reasons [(not wanting to participate in the study (n=7), 5 people working in the delivery room for less than 6 months, being on maternity leave (n=2), not having time (n=2) and absenteeism (n=2)]. Therefore, the study was completed with a sample group of 109 HCWs. The inclusion criteria of the study consisted of accepting to participate in the

study, working actively as a physician, nurse or midwife in the delivery units of hospitals, and the HCWs who followed the pregnant woman in labor for at least 6 months. The most dominant variable that predicts the state of knowing and applying NFMs of HCWs working in the labor room was the variable of evaluating one's own competence (finding sufficient-insufficient). In the post hoc power analysis performed with a 5% alpha margin of error (two-way) in the G*Power (3.1.9.2) program, the power for the dependent variable NFM knowing variable was 84% and for the NFY application variable was 93%. As a result, it was understood that the number of samples was sufficient.

A questionnaire was formed for the research. The form included the literature review on the subject, the clinical observations and experiences of the researchers, the socio-demographic characteristics of the HCWs in the study group, and the questions of knowing and applying NFMs used in LP control (Bicek, 2004; Williams and Mitchell, 2007; Gama et al. 2016; Chu et al., 2017; Aziato et al., 2017; Ulutas and Bekari 2018; Yilmaz Sezer and Koc, 2020; Treede, 2018; Kmehchian et al., 2020). Please, sort the sources by date.

Before the form was applied, it was sent for the opinions of five experts in the field of Midwifery and Obstetrics, and Women's Health Nursing, who had researched on the subject, for its content/scope validity. The form was given its final shape in line with the comments received. To determine the understanding and usability of the prepared questionnaire, the pilot application was made on the 10 HCWs working in maternity units outside the city center, and the data of the pilot application were not included in the data of the research group.

The study form consisted of 21 questions in total, covering 7 questions aimed at determining the socio-demographic and introductory characteristics of the employees and 14 questions aimed at determining the state of knowing and applying NFMs used in LP control.

The questionnaire form was administered by the researcher researchers? to the HCWs, who were informed about the research and accepted to answer, and whose written and verbal consents were obtained, in the framework of the voluntariness principle in the institutions where they worked. Filling the questionnaire took an average of 6-8 minutes for a HCW.

Data analysis was performed on a computer using the SPSS 21.0 program. Number, percent (%), mean and standard deviation (SD), Pearson chi-square (x^2) test, Yates corrected x^2, and Fisher exact x^2 test was used in the evaluation. Independent variables which determined to affect knowing and applying NFMs, which are dependent variables in the primary analysis, were evaluated with multiple logistic regression (backward wald) analysis. The significance level was accepted as $p<0.05$. In order to evaluate the ethical compliance, ethical approval was obtained from Eskisehir Osmangazi University Non-Interventional Clinical Research Ethics Committee with the date of 09/04/2018 and numbered 25403353-050.99-E.37679 and the necessary permissions from the health institutions. The Volunteer Information and Consent Form prepared by the researchers was used to obtain the consent of the individuals participating in the study.

Results

When the descriptive and professional characteristics of the participants were examined, most of the HCWs participating in the study (57.8%) were 36 years and older, and the mean age was 38.91±10.90. A large proportion of the HCWs were women (79.8%), and they had undergraduate and graduate degrees (70.7%). Most of the participants were working in private hospitals (50.5%), followed by government institutions with 33.0%. Most of the HCWs participating in the study were midwives (52.3%), followed by specialist doctors (30.3%). When the employees were classified according to their professional experience, most of them (64.2%) had work experience of 11 years or more, with a mean of 16.60±11.82. Most of the HCWs (59.6%) had 6 years or more working time with an average of 10.80±8.91. It was determined that 66.1% of the HCWs knew about NFMs, and 33.9% had insufficient or no knowledge about NFMs. It was determined that 41.3% of the HCWs applied NFMs, and 59.7% rarely or never applied them. When the state of knowing and applying NFMs according to the descriptive and professional characteristics of the HCWs working in the delivery room; when the knowledge and practice of NFMs were compared according to age, education, occupation, experience in the profession, and working time in the delivery rooms, no significant difference was found between the HCWs ($p>0.05$, per one). The rate of knowing

NFMs among female HCWs compared to men (71.3% and 45.5%, respectively) was found that the rate of applying NFMs was significantly higher than in men (46.0% and 22.7%, respectively) (p<0.05). The rate of knowing NFM among private hospital workers (83.6%) compared to those working in the university hospital (44.4%) and the public hospital (50.0%), and the rate of NFM implementation (60.0%) in private hospital workers was found to be significantly higher than in those working in public hospitals (30.6%) and university hospitals (5.6%) (p<0.05, per one). The rate of knowing NFMs in private hospitals (83.6%) compared to those working in university hospitals and public hospitals (44.4% and 50.0%, respectively), and the rate of applying NFMs in private hospitals (60.0%) was found to be significantly higher than the HCWs in public hospitals and university hospitals (30.6% and 5.6%, respectively) (p<0.05, per one). When the state of knowing NFMs is examined according to the evaluation of their own proficiency in applying NFMs, the rate of knowing the NFMs of those who found themselves sufficient compared to those who found it insufficient (88.4% and 51.5%, respectively) and when the application status of NFMs is examined, the rate of NFM application of those who found themselves sufficient was highly significant compared to those who found themselves insufficient (74.4% and 19.7%, respectively). The detailed data are given in Table 1. The NFMs that the HCWs knew the most were breathing techniques and movement-position (91.7%, per one), touch and massage (83.5%), music (82.6%), hydrotherapy-bath (71.6%), relaxation techniques (73.4%), respectively, and the least known NFMs were intradermal sterile water injection (INS) (11.9%), homeopathy (12.8%), acupressure (13.8%) and ice massage application

(21.1%). The methods most commonly used by the HCWs were determined as breathing techniques (87.2%), movement-position (84.4%), touch and massage (68.8%), and relaxation techniques (65.1%). It was determined that the HCWs did not use any of the NFMs such as intradermal sterile water injection, acupuncture, TENS, hypnosis, and homeopathy. More detailed data are presented in Table 2. It was determined that the application rate of the HCWs who had knowledge about NFMs was higher than the application rates of those who did not have the knowledge and who were inadequate (56.9% and 10.8%, respectively), and the difference was very significant (p<0.001). More detailed data are given in Table 3. According to the results of the multiple regression analysis, the probability of knowing the NFMs among the HCWs who evaluated themselves as competent in NFM practice was 5.31 times higher than those who evaluated themselves as inadequate. The HCWs working in private hospitals were 4.06 times more likely to know about NFMs than those working in university and public hospitals. The other data are presented in Table 4.The probability of applying NFMs among the HCWs who evaluated themselves as competent in applying the NFM was 6.93 times higher than those who evaluated themselves as inadequate. The probability of applying NFMs among the HCWs who knew/stated that they knew how to use NFMs was 5.64 times higher than those who did not. The probability of applying NFMs among those working in public hospitals was 7.06 times higher than those working in a university hospital, but the level of effect was not found to be significant. The probability of applying NFMs in the HCWs working in private hospitals was 13.09 times higher than those working in university hospitals. More detailed data are given in Table 5.

Table 1. Comparison of participants' knowledge and practice of NFM according to descriptive, professional characteristics and self-evaluation in NFM practice

Characteristics	NFM							
	Knowledge				**Application**			
	Sufficient		**No/Insufficient**		**Yes**		**No**	
	n=72	**%66.1**	**n=37**	**%33.9**	**n=45**	**%41.3**	**n=64**	**%59.7**
Age groups								
≤ 35 years old	31	67.4	15	32.6	19	41.3	27	58.7

≥ 36 years old	41	65.1	22	34.9	26	41.3	37	58.7
x^2;SD;P	*0.063;1;0.801*				*0.000;1;0.997*			
Gender								
Female	62	71.3	25	28.7	40	46.0	47	54.0
Male	10	45.5	12	54.5	5	22.7	17	77.3
x^2;SD;P	***5.217;1;0.022***				***3.916;1;0.048***			
Educational Level								
High school/associate degree	23	71.9	9	28.1	14	43.8	18	56.3
Licence	29	65.9	15	34.1	18	40.9	26	59.1
Graduate	20	60.6	13	39.4	13	39.4	20	60.6
x^2;SD;P	*0.921;1;0.631*				*0.131;1;0.936*			
Employed institution								
University Hospital	8	44.4	10	55.6	1	5.6	17	94.4
Public Hospital	18	50.0	18	50.0	11	30.6	25	69.4
Private Hospital	46	83.6	9	16.4	33	60.0	22	40.0
x^2;SD;P	***15.470;0.000 (a, b < c)***				***19.136;1; 0.000** (a < b < c)*			
Profession								
midwife and nurse	46	71.9	18	28.1	31	48.4	33	51.6
Assistant and specialist doctor	26	57.8	19	42.2	14	31.1	31	68.9
x^2;SD;P	*2.346;1;0.126*				*3.272;1;0.070*			
Professional experience period								
≤ 10 years	27	69.2	12	30.8	18	46.2	21	53.8
≥ 11 years	45	64.3	25	35.7	27	38.6	43	61.4
x^2;SD;P	*0.273;1;0.601*				*0.594;1;0.441*			
Working time in the labor room								
≤ 5 years	28	63.6	16	36.4	20	45.5	24	54.5
≥ 6 years	44	67.7	21	32.3	25	38.5	40	61.5
x^2;SD;P	*0.193;1;0.661*				*0.529;1;0.467*			
Self assessment in NFM practice								
Sufficient	38	88.4	5	11.6	32	74.4	11	25.6
Insufficient	34	51.5	32	48.5	13	19.7	53	80.3

| x^2;SD;P | 15.774;1;0.000 | | 32.164;1;0.000 | |

Table 2. Participants' knowledge and practice of NFMs by type

NFMs	Knowledge				Application			
	Sufficient		No/Insufficient		Yes		No	
	n	%	n	%	n	%	n	%
Movement and position	100	91.7	9	8.3	92	84.4	17	15.6
Touch and massage	91	83.5	18	16.5	75	68.8	34	31.2
Ice massage	23	21.1	86	78.9	6	5.5	103	94.5
Eflorage and sacral pressure	64	58.7	45	41.3	48	44.0	61	56.0
Superficial hot and cold applications	66	60.6	43	39.4	36	33.0	73	67.0
Hydrotherapy-bath	78	71.6	31	28.4	49	45.0	60	55.0
Music	90	82.6	19	17.4	39	35.8	70	64.2
Breathing techniques	100	91.7	9	8.3	95	87.2	14	12.8
Dreaming	76	69.7	33	30.3	60	55.0	49	45.0
Focus attention	63	57.8	46	42.2	50	45.9	59	54.1
Biofeedback	54	49.5	55	50.5	42	38.5	67	61.5
Hypnosis	32	29.4	77	70.6	-	-	109	100.0
Acupuncture	33	30.3	76	69.7	-	-	109	100.0
Acupressure	15	13.8	94	86.2	1	.9	108	99.1
Reflexology	28	25.7	81	74.3	4	3.7	105	96.3
Homeopathy	14	12.8	95	87.2	-	-	109	100.0
Aromatherapy	30	27.5	79	72.5	5	4.6	104	95.4
Subcutaneous electrical nerve stimulation (TENS)	22	20.2	87	79.8	-	-	109	100.0
Intradermal sterile water injection	13	11.9	96	88.1	-	-	109	100.0
Hypno-birthing (hypnotherapy)	30	27.5	79	72.5	12	11.0	97	89.0
Relaxation techniques (stretching and relaxing the muscles)	80	73.4	29	26.6	71	65.1	38	34.9
Yoga-meditation	30	27.5	79	72.5	2	1.8	107	98.2

Table 3. Comparison of NFM usage status according to the participants' knowledge about NFM (n=109)

State of Knowledge on NFMs	Implementation status of NFMs					
	Yes		No*		x^2	p
	n=45	%	n=64	%		
No/Insufficient	4	10.8	33	89.2	21.459	**0.000**
Sufficient	41	56.9	31	43.1		

*=rare/never

Table 4. The effect of independent variables on the participants' knowledge of NFMs (n=109)

Variables	B	SD	Wald	p	Exp (β)	95% Confidence Interval for Exp (β)	
Constant	-.45	.31	2.147	.143	.64		
Evaluating proficiency in NFM (0=insufficient, 1=adequate)	1.67	.56	9.000	**.003**	5.31	1.78	15.79
Employed institution (0=University/state,1=Private)	1.40	.48	8.547	**.003**	4.06	1.59	10.39

Dependent Variable=NFM knowing state; Omnibus χ^2=26.429,SD=2, p=0.000; Nagelkerke R^2= 0.30;
Hosmer and Lemeshow χ^2=1.179, SD=2, p=0.555.

Table 5. The effect of independent variables on the participants' application of NFMs (n=109)

Independent variables	B	SD	Wald	P	Exp (β)	95% Confidence Interval for Exp (β)	
Constant	-3.07	.71	18.680	.000	.046		
Evaluating proficiency in NFM (0= insufficient, 1= adequate)	1.94	.51	14.362	.000	6.93	2.55	18.86
NFM Knowing status (0=none/not enough, 1=yes)	19.73	.66	6.874	.009	5.64	1.55	20.56
Employed institution (0= University, 1=State, 2=Private)			5.565	.062			
Employed institution (0=University, 1=State)	1.96	1.20	2.666	.103	7.06	.68	73.85
Employed institution (0=University, 1=Private)	2.57	1.15	4.986	.026	13.09	1.37	125.16

Dependent Variable=NFM application state; Omnibus x^2=51.831,SD=4, p=0.000; Nagelkerke R^2= 0.51; Hosmer and Lemeshow x^2=3.937, SD=6, p= 0.685

Discussion

In this study, it was found that the rate of applying NFMs of all the participants was lower than the rate of knowing NFMs (41.3% and 66.1%, respectively), and those who knew/stated that they knew NFM applications 5.64 times more than those who did not know. In Saudi Arabia, a positive relationship was

reported between nurses' knowledge and practice of NFMs used in pain management, in line with our research findings (Ali et al., 2013). On the contrary, in a study conducted in a different province of Turkey, which is inconsistent with our study results, it has been shown that the knowledge rate of midwives about NFM is lower than the rate of application (Ulutas and Bekar, 2018). It was determined that HCWs in Brazil applied NFMs at a lower rate (31.3%) than that in our study (41.3%) (Gama et al., 2016). This rate was found to be 42.2% in nurses working in Bromen, USA, which is consistent with our study result (Bicek, 2004). It was determined that 57% of pediatric nurses in Finland used NFMs more than that of our study (Polkki et al., 2001). When the research findings are examined, it is seen that the HCWs' knowledge and practice of NFM in pain management is not at the desired level and there are differences between the studies. This shows that countries do not give due importance to NFMs by their health administrations. The reasons for these differences may be related to differences between education systems, the importance given to NFMs by countries, how the questions are asked, and the sociodemographic characteristics of individuals.

When the HCWs' knowledge and practice of NFMs were compared according to age, education level, occupation, period of experience in the profession and working time in the delivery room, no significant difference was found between them (p>0.05, per one). By our study, previous studies indicated that the education level of midwives and nurses did not affect the use of complementary therapy (Ali et al., 2013; Mert and Goktas 2019). Again, similar to our study finding, in a study examining the knowledge of NFMs by nurses, it was found that professional experience did not affect the knowledge and application of these methods (p>0.05) (Midilli et al., 2018). Similar to our study results, there was no statistically significant difference between nurses' NFM use and age, education, and professional experience (p>0.05, per one) (Bicek, 2004). Contrary to our study, there are also studies showing that there is a significant relationship between age, education level, professional experience, and the use of NFM (Polkki et al., 2001; Coyne et al., 1999; Ali et al., 2013). Some studies showed that the level of education was an important factor in knowing and

applying NFMs for pain control (Williams and Mitchell, 2007; Midilli et al., 2018; Ulutas and Bekar, 2018). The difference in the study findings is thought to be related to the widespread use of the method in recent years, independent of the influence of some sociodemographic and occupational characteristics. In addition, it is thought that the policies of the institution may be more decisive in the use of the methods.

In our study, it was found that the women among the participants knew and practiced NFMs more than men. Similar to our study, many previous studies also found that women used NFMs more than men in pain management (Madden et al., 2013; Mert and Göktaş, 2019; Midilli et al., 2018). Please, sort the sources by date. The reasons for this may be that NFMs are predominantly included in midwife and nursing education, where women are very much involved, the number of midwives and nurses in our study was higher, and there were no male nurses in the delivery rooms where the study was conducted.

In this study, it was determined that the NFMs that the HCWs knew the most were the methods that do not require much technical knowledge such as breathing techniques, movement-position, touch and massage, while the least known ones were methods such as intradermal sterile water injection, homeopathy, acupressure, which require more technical knowledge. The most known NFMs in the studies were similar to the findings of our research; Yilmaz Sezer and Koc (2020), similar to our study findings, revealed that the first four of the NFMs that midwives and nurses were most familiar with in LP control were touch and massage techniques (83.0%), breathing techniques (83.0%), hydrotherapy (83.0%), and movement and position (81.0%) (Gama et al., 2016; Ulutas and Bekar, 2018). The most commonly known NFMs in LP management by midwives were found to be respiratory techniques (67.4%), touch-massage method (58.7%) and hot-cold applications (54%). Midwives, doctors, and patients in South Australia listed the most common methods of alleviating LP as bath-hydrotherapy, hot application, and massage (Aziato et al., 2017; Madden et al., 2013). In the study of the American College of Midwife-Nurses (CMN) (1998) in which it examined NFMs used in the management of LP under the leadership of midwives-nurses; it was found that the most well-known NFMs for alleviating LP were breathing

techniques (55.2%), movement and repositioning (42.4%) (Vargens et al. 2013). In a study that Vargens et al. (2013) evaluated the results of 21 studies investigating NFMs used in the management of LP, it was found that the most used NFMs were breathing and relaxation, movement-position and hydrotherapy. The reasons why applications such as breathing techniques, movement-position, touch, and the massage that do not require technical knowledge are more applied than applications that require technical knowledge such as intradermal sterile water injection, homeopathy, acupressure may be that technical methods are learned with more certificates; and that those non-technical methods are learned from colleagues or work experience and easier and risk-free methods. In addition, it is thought that one of the reasons for the application of NFMs more is related to the increase in the number of research and publications related to NFMs in recent years, the organization of courses and training on the subject, and the fact that the subject has become more up-to-date.

In this study, it was shown that participants who evaluated themselves as competent in NFM practice were more likely to know and practice NFM than those who evaluated themselves as inadequate. Those who knew the methods were also more likely to apply than those who do not. The results of many studies are also consistent with our findings; The results showed that the majority of midwives-nurses found themselves inadequate about NFMs (Gama et al., 2016; Yilmaz Sezer and Koc 2020; Khalil, 2018). Please, sort the sources by date. No study has been found on the effect of self-efficacy on the state of knowing and applying NFMs, and according to our study finding, it is seen that increasing the competence and level of knowledge of HCWs about knowing and applying NFMs will contribute positively to the rate of application of the methods.

In this study, it was found that the institutions where NFMs were most known and applied were private hospitals, and the institution where NFM was known and applied the least was university hospital. It has been thought that the use of methods in private hospitals may be since these hospitals are more preferred, and that they take into account the practices for patient expectations and satisfaction and comfort more. However, unlike our study results, the rate of NFM practice of nurses working in a university hospital in Finland was higher than

our study result (57% and 41.3%, respectively) (Polkki et al., 2001). This result shows that the rate of use of methods in hospitals may vary depending on the differences in the structure and functioning of the health system according to countries (Coyne et al., 1999; Ali et al., 2013). These results, which are in parallel with our study, reveal the need for NFM practices to be regulated and standardized by the Ministries of Health of countries and to make necessary arrangements for their implementation in institutions.

In this study, the knowledge and application status of the HCWs working in the delivery rooms was not at the desired level. It is seen that HCWs who know the methods and consider themselves competent on the subject apply NFMs more. To increase the use of NFM, it will be appropriate to include issues related to NFM practices that support the naturalness of birth in the training curriculum of health personnel, to organize in-service training, to organize events such as adequate courses/ congresses/seminars, and to provide adequate financial support. To prevent wrong and random practices, evidence-based guidelines should be created in the light of scientific research on how to apply NFMs, and it should be ensured that the practices are carried out according to these guidelines and that experts in the field should be trained.

Limitations of the study: The findings of the study are only valid for the health personnel working in the labor wards of hospitals in a city center. Therefore, it cannot be generalized to HCWs working in delivery rooms of other hospitals in Turkey. Obtaining the findings based on the statements of individuals creates a limitation in terms of determining the knowledge and application status of NFMs.

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