Original Article

Evaluation of Self-Efficacy Perceptions of Pelvic Floor Muscle Exercises in Women who are Deaf or Hard of Hearing

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Abstract
Background: Pelvic floor muscle exercises (PFME) are essential for women's pelvic health, yet access to relevant education may be limited for women with hearing impairments. Communication barriers can hinder both awareness and implementation of PFME.
Objective: To evaluate the self-efficacy perceptions of deaf or hard-of-hearing women regarding PFME.
Methodology: This descriptive study followed the STROBE guidelines and included 193 women aged 18–65 with hearing impairments in Sivas, Turkey. Data were collected through face-to-face interviews supported by sign language interpreters. Participants completed a Personal Information Form and the Broome Pelvic Muscle Self-Efficacy Scale (PMSES).
Results: Participants who used hearing aids demonstrated higher levels of self-efficacy. Women with prior knowledge about PFME also had greater self-efficacy and outcome expectations. Notably, 26.99% of those informed about PFME had received information from midwives, highlighting their critical role in health education for women with hearing impairments.
Conclusions: Deaf or hard-of-hearing women often face barriers to PFME education. Midwives and Nursing should develop targeted educational programs that utilize sign language and visual aids. These efforts should account for varying levels of PFME knowledge, hearing aid use, educational backgrounds, and family support to ensure inclusive and effective communication.

Keywords*:* hard-of-hearing, deaf, women, pelvic floor exercise, self-efficacy

Introduction

Persons with disabilities face inequality and discrimination in areas such as health, education, and employment, leading to human rights violations. In particular, deaf and heard-of-hearing (DHH) women encounter communication barriers in accessing healthcare services, which restricts their health literacy and participation in screening programs (Altintas, 2020). Despite efforts to prevent all forms of discrimination against individuals with disabilities through legal measures, these protections remain insufficient in many areas (Haksiz & Nuri, 2023).

Women with disabilities are considered the most disadvantaged group worldwide in terms of accessing and utilizing information and services related to sexual and reproductive health rights, which are fundamental for everyone (Ozcan & Akdemir, 2023). Globally, women with disabilities are the group that faces the most challenges in accessing and utilizing information and services related to sexual and reproductive health rights, which are universal human rights. The majority of women with disabilities are unable to have a say in their sexual and reproductive health, are seen as asexual, and have their reproductive rights

disregarded, facing various barriers (Guler & Erbil, 2023). The research by Luengo-Rubalcaba et al. (2019) reveals the existence of barriers that hinder deaf women's access to the healthcare system, leading to a problem of health inequality by violating their fundamental rights.

According to the data from the General Directorate of Services for Persons with Disabilities and the Elderly in Turkey (2023), 1.1% of women in Turkey, which corresponds to 429,000 women, are DHH. This figure includes those who use assistive devices for hearing but still have great difficulty, as well as those who report complete hearing loss. While these individuals experience physical loss of hearing and speech, they also face challenges in establishing effective social communication (Alsancak, 2018; Oncel & Gumus, 2019). These communication problems also stem from cultural factors (Altintas, 2020). Particularly, hearing-impaired women of reproductive age encounter inequalities and stigma in healthcare. Kocak et al., 2019). DHH women who cannot adequately access health screenings and services are increasingly facing problems in the areas of reproductive and sexual health (Ozata, 2017; Altintas, 2020). The literature emphasizes that DHH women experience issues in accessing information and have knowledge deficits related to general health and women's health (Kocak et al., 2019; Spellun et al., 2019; London et al., 2020; Aslan, 2022; Guler and Erbil, 2023). Luengo-Rubalcaba et al. (2019) have stated in their study that DHH women do not receive adequate information on sexual and reproductive health.

To facilitate the integration of disabled women into society and improve their access to sexual/reproductive health services, healthcare professionals should receive specialized training to meet the needs of these women and assist them in overcoming barriers. Nurses hold significant responsibilities in effectively implementing Pelvic Floor Muscle Exercises (PFME) (Guler and Erbil, 2023). Midwives and nurses play crucial roles in the proper application of PFME (Cangol et al., 2013; Demir et al., 2015; Sut, 2018). Inadequacy of the pelvic floor muscles can restrict individuals' daily life activities, negatively affecting their physiological, psychological, social, and cultural well-being (Cangol et al., 2013). Therefore, evidence-based approaches emphasize the importance of PFME and recommend that women perform these exercises regularly (Bilgin, 2010). PFME facilitate defecation and childbirth (Sut, 2015; Kashif et al., 2023); by strengthening the vaginal muscles and increasing blood flow, they improve orgasmic function and have positive effects on sexual problems such as vaginismus. (Demir et al., 2018; Ojukwu, et al., 2023). Failing to perform PFME can lead women to experience problems such as urinary incontinence, pelvic organ prolapse, and pelvic floor dysfunction (Cavkaytar et al., 2015; Sut, 2018; Aslan, 2022). Although there is extensive research on PFME in the literature, the lack of studies focusing on DHH women is notable. To address this gap, this research aims to evaluate the self-efficacy perceptions DHH women towards PFME. This study will guide the planning of necessary training to ensure that DHH women can effectively utilize health services and regularly perform these exercises, which will contribute to improving their individual health as well as reducing social health inequalities.

This research aimed to evaluate the self-efficacy perceptions of DHH women towards PFME. The study sought to answer two research questions.

Research Questions

This study addressed two research questions:

(a) What are the mean self-efficacy perception scores of DHH women towards PFME?

(b) What are the descriptive characteristics that create differences in the mean self-efficacy perception scores of DHH women?

Methods

Design: This was a descriptive study. The Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) checklist was used . The research was conducted between February 2021 and November 2022 at the Disability Education, Culture Center, and Sports Club in Sivas, Turkey.

Participants: The study population consisted of 328 women aged 18-65 years who were diagnosed with hearing impairment and living in the city center and districts of Sivas. No

sampling method was used in the study. At the time of the study, 12 DHH women residing in Sivas but located in other cities for various reasons could not be contacted. A total of 194 DHH women were reached. One person did not want to participate in the research. The study was conducted with 193 (58.8%) DHH women who voluntarily participated.

Data Collection: Data were collected between June 2022 and October 2022 through face-to-face interviews with hearing-impaired participants, utilizing sign language support. The questionnaires, designed with visual aids for accessibility, were completed in approximately 15-20 minutes. The instruments used included the "Personal Information Form" and the "Broome Pelvic Floor Muscle Exercise Self-Efficacy Scale (PMSES)." The Personal Information Form comprised 24 questions addressing sociodemographic factors, hearing impairment, and obstetric and gynecological history. The PMSES, a 23-item scale developed by Broome (1999), assesses self-efficacy in pelvic floor muscle exercises and includes two sub-dimensions: "efficacy expectation" and "outcome expectation." The Turkish version, validated by Zengin and Pınar (2008), demonstrated high reliability with Cronbach's Alpha values of 0.97 for the total scale, 0.97 for the efficacy expectation sub-dimension, and 0.96 for the outcome expectation sub-dimension. PMSES scores range from 0 to 100, categorizing self-efficacy as low (32 and below), medium (33-66), or high (above 66).

Ethical Considerations: The study received ethical approval from Canakkale Onsekiz Mart University (21.01.2021, E84026528-050.01.04-2200017164) and permissions from Sivas Hearing Impaired Sports Club (20.04.2022, 2022/31) and Sivas Municipality Disabled Education and Culture Center (08.06.2022, E25226398-010.15.78-305\8389). Consent was also obtained from participants.

Data Analysis: Data were analyzed using SPSS 25 software. Normality was assessed through skewness and kurtosis coefficients, with values between -1.50 and +1.50 indicating normal distribution (Tabachnik & Fidell, 2013). Group differences were analyzed using t-tests and ANOVA; significant ANOVA results were further examined with Tukey's test, assuming homogeneity of variances. Pearson correlation tests assessed relationships between continuous variables. A significance level of 0.05 was used for all analyses, where $p<0.05$ indicated statistical significance and $p>0.05$ indicated no significant difference. This rigorous analysis ensures the study's reliability and validity.

Results

Participants' ages ranged from 18 to 65 years, with a mean age of 36.07 ± 12.23 years. Of them, 78.24% were married, 17.62% single, and 4.15% divorced. Educational levels included 29.53% with primary school, 23.32% with middle school, 31.09% with high school, 8.81% with an associate's degree, and 7.25% with a bachelor's degree or higher. Family structures were 62.69% nuclear, 32.12% extended, and 5.18% broken. Income levels were 29.02% high, 42.49% moderate, and 28.50% low. Additionally, 48.18% resided in the city center, 17.10% were employed, 67.88% were housewives, 16.06% were smokers, 38.34% had chronic illnesses, 49.22% had previous surgeries, and 39.90% engaged in regular exercise (Table 1).

Hearing characteristics of participants showed that 45.08% had congenital or genetic hearing loss, 34.20% due to illnesses, and 20.73% from trauma. Hearing aid usage was 32.64%, and 34.72% had a hearing-impaired family member. The disability percentage ranged from 13 to 95, with a mean of 64.36 ± 15.94. (Table 2).

Obstetric characteristics showed that 47.37% of participants had normal deliveries, 30.08% had cesarean deliveries, and 22.56% had a combination of both. Menopausal status revealed that 61.90% experienced natural menopause, while 38.10% had medically-induced menopause. The number of pregnancies varied from 0 to 9 (mean: 2.02 ± 1.73), births ranged from 0 to 6 (mean: 1.54 ± 1.43), miscarriages from 0 to 4 (mean: 0.41 ± 0.81), abortions from 0 to 3 (mean: 0.22 ± 0.57), and living children from 0 to 5 (mean: 1.26 ± 1.31) (Table 3).

Among the participants, 33.16% (n=64) were knowledgeable about PFME, with 46.88% (n=30) of them having learned this information from healthcare professionals, 17.19% (n=11) from relatives/friends, 6.25%

(n=4) from family members, 20.31% (n=13) from mass media, and 9.38% (n=6) from books/magazines/brochures. Regarding healthcare professionals, *29.69% (n=19) had learned from midwives*, 23.44% (n=15) from nurses, 25% (n=16) from physicians, and 21.88% (n=14) from physiotherapists. Regarding the frequency of exercise, 11.40% (n=22) reported performing PFME multiple times per day, 16.06% (n=31) once a week, 11.40% (n=22) once a month, and 61.14% (n=118) never performed these exercises (Table 4).

An examination of the frequency distribution of PMSES levels revealed that the mean score for the Efficacy Expectation subscale was 36.81 ± 14.10, ranging from 6.43 to 74.29, the mean score for the Outcome Expectation subscale was 34.60 ± 16.32, ranging from 2.22 to 78.89, and the mean score for the Broome Pelvic Muscle Self-Efficacy Scale was 35.71 ± 27.03, ranging from 4.33 to 74.67. For the normality test, skewness and kurtosis coefficients were used. According to Tabachnik and Fidell (2013), if these values are between -1.50 and +1.50, the distribution is considered normal. Based on this, the total and subscale levels of the pelvic muscle self-efficacy scale were determined to have a normal distribution (Table 5).

There were no statistically significant differences in the mean Efficacy Expectation, Outcome Expectation, and total PMSES scores across various causes of hearing loss or between those with and without a family history of hearing loss ($p>0.05$). However, a significant difference was observed in total PMSES levels based on hearing aid use ($p<0.05$), with hearing aid users showing higher scores. No significant correlations were found between PMSES scores and disability percentage ($p>0.05$, Table 6).

No statistically significant differences were found in total PMSES levels across different delivery modes and menopausal statuses ($p>0.05$). Similarly, there were no significant relationships between Efficacy and Outcome Expectation levels and these factors ($p>0.05$). A weak inverse correlation was found between the number of pregnancies and Efficacy Expectation levels ($r=-0.166$; $p<0.05$), suggesting that higher Efficacy Expectations are linked to fewer pregnancies. However, no significant relationships were observed between PMSES levels and the number of births, miscarriages, abortions, or living children ($p>0.05$, Table 7).

Individuals informed about PFME exhibited higher Efficacy and Outcome Expectations and elevated pelvic muscle self-efficacy levels ($p<0.05$). No significant differences were found in Efficacy and Outcome Expectations or total PMSES scores among different healthcare professionals providing PFME information ($p>0.05$). However, a significant relationship was found between PFME practice frequency and Efficacy and Outcome Expectations, with those practicing PFME multiple times per day showing notably higher self-efficacy levels compared to those practicing weekly, monthly, or not at all ($p<0.05$, Table 8).

Table 1. Distribution of DHH' descriptive characteristics (n=193)

Categorical variables		n	%
Marital Status	Married	151	78.24
	Single	34	17.62
	Divorced	8	4.15
Educational Status	Primary school	57	29.53
	Secondary school	45	23.32
	Hıghschool	60	31.09
	Associate degree	17	8.81
	Bachelor and graduate	14	7.25
Family Structure	Nuclear family	121	62.69
	Extended family	62	32.12

	Shattered family	10	5.18
	Good	56	29.02
Income Level	Middle	82	42.49
	Bad	55	28.50
	Province	93	48.19
What region do you live in now?	District	56	29.02
	Town	9	4.66
	Village	35	18.13
Working Status	Yes	33	17.10
	No	160	82.90
	Retired	4	2.07
	Housewife	131	67.88
Working Status	Public Sector	12	6.22
	Student	16	8,29
	Private Sector	21	10.88
Smoking Condition	Yes	31	16.06
	No	162	83.94
Chronic Disease Condition	Yes	74	38.34
	No	119	61.66
Have You Ever a Surgical Operation Before?	Yes	95	49.22
	No	98	50.78
Regular Exercises	Yes	77	39.90
	No	116	60.10
		Min.-Max	Ort.±SS
Age		18-65	36.07±12.23

Table 2. Distribution of DHH' hearing characteristics (n=193)

Categorical variables		n	%
What caused the Hearing Loss?	Genetic / Congenital	87	45.08
	Subsequent / Previous Illness	66	34.20
	Trauma / Accident	40	20.73
Using a Hearing Aid	Yes	63	32.64
	No	130	67.36
Does anyone else in your family have hearing impairment?	Yes	67	34.72
	No	126	65.28
		Min.-Max	X±SD
Percentage of Disability		13-95	64.36±15.94

Table 3. Distribution of DHH' obstetric characteristics (n=193)

Categorical variables		n	%
Delivery Method	Normal(Vaginal)	63	47.37
	Sectio	40	30.08
	Both of them	30	22.56
The Menopausal Condition	Natural	26	61.90

Medical	16	38.10
	Min.-Max	X±SD
Number of Pregnancies	0-9	2.02±1.73
Number of Births	0-6	1.54±1.43
The Low Number	0-4	0.41±0.81
Number of Abortions	0-3	0.22±0.57
Number of Inhabitants	0-5	1.26±1.31

Table 4. Distribution of DHH' knowledge and practice of pmses (n=193)

Categorical variables		n	%
Do you know PFME?	Yes	64	33.16
	No	129	66.84
If yes, from whom or where did you get the information about PFME?	Medical Staff	30	46.88
	Relative / Friend	11	17.19
	Family Members	4	6.25
	Mass Media	13	20.31
	Book / Magazine / Brochure	6	9.38
If your answer is medical staff, who is he/she?	Midwife	19	29.69
	Nurse	15	23.44
	Doctor	16	25.00
	Physiotherapist	14	21.88
How often do you practice PFME?	Many Times During The Day	22	11.40
	Once A Week	31	16.06
	Once A Month	22	11.40
	Any	118	61.14

Table 5. PMSES frequency and normality test results

	M	SD	Min.	Max.	Skewness	Kurtosis
The Expectation of Effectiveness	36.81	14.10	6.43	74.29	0.283	-0.241
Expectation of Results	34.60	16.32	2.22	78.89	0.729	0.004
Total	35.71	27.03	4.33	74.67	0.423	-0.004

Table 6. Distribution of PMSES mean scores by selected hearing characteristics

Categorical variables	Expectation of Effectiveness	Expectation of Results	Total Self-Efficacy
	X±SD	X±SD	X±SD
The Cause of Hearing Loss			
Genetic / Congenital	35.13±13.41	33.38±15.85	34.27±25.74
Genetic / Congenital	37.55±13.96	34.46±15.91	36.01±26.85
Subsequent / Previous Illness Trauma / Accident	39.23±15.61	37.47±18	38.35±29.75

Statistical Analysis			
P	0.274 [A]	0.424 [A]	0.279 [A]
Difference	-	-	-
Hearing Impaired in the Family			
Yes	38.06±15.76	36.58±17.31	37.17±30.43
No	36.15±13.15	33.54±15.75	34.33±24.99
Statistical Analysis			
P	0.371 [t]	0.219 [t]	0.226 [t]
Using a Hearing Aid			
Evet	39.20±14.34	37.78±17.80	38.14±28.13
Hayır	35.65±13.89	33.06±15.39	34.08±26.16
Statistical Analysis			
P	0.102 [t]	0.06 [t]	0.046* [t]
Percentage of Disability			
r	-0.091	-0.045	-0.075
P	0.208	0.53	0.3

Note: A = ANOVA test; t = Independent samples t-test; r = Pearson correlation coefficient. *$p < 0.05$ indicates statistical significance.*

Table 7. Distribution of PMSES by participants' obstetric characteristics

Categorical variables	Effectiveness Expectation	Outcome Expectation	Total Efficiency
	X±SD	X±SD	X±SD
Birth Type			
Vaginal	34.48±13.47	32.63±15.79	33.77±26.18
Cesarean	37.54±13.75	36.78±16.06	37.17±26.49
Both	36.50±15.19	33.56±16.55	35.03±29.20
Statistical Analysis			
P	0.535 [A]	0.434 [A]	0.42 [A]
Difference	-	-	-
Menopausal Status			
Natural	31.32±10,43	33.38±15,09	32.12±22.7
Medical	34.42±15.33	35.56±14.76	35.59±28.27
İstatistiksel Analiz			
P	0.439 [t]	0.649 [t]	0.512 [t]
Pregnancy Status			
r	-0.166	-0.043	-0.113
P	**0.021***	0.552	0.119
Number of Births			
r	-0,093	0.013	-0.041
P	0,197	0.857	0.573
Number of Miscarriages			
r	-0.097	-0.04	-0.075
P	0.18	0.58	0.301
Number of Abortions			
r	-0.129	-0.11	-0.134

P	0.073	0.129	0.064
Number of Surviving Children			
r	-0.057	0.073	0.014
P	0.434	0.316	0.843

Note: A = ANOVA test; t = Independent samples t-test; r = Pearson correlation coefficient. *$p < 0.05$ indicates statistical significance.*

Table 8. Distribution of PMSES mean scores by selected pfme characteristics

Categorical variables	Effectiveness Expectation	Outcome Expectation	Total Efficiency
	X±SD	X±SD	X±SD
PFME Knowledge			
Yes	47,56±12,02	44,20±17,06	45,85±25
No	31,48±11,86	29,84±13,69	30,17±21,87
Statistical Analysis			
P	**0.001*** [t]	**0.001*** [t]	**0.001*** [t]
PFME Information Source			
Health Personnel	48.40±11.43	47.22±16.62	43.76±23.46
Relatives / Friends	47.27±13.52	47.37±17.27	47.80±29.11
Family Members	43.39±8.05	35±16.84	39.65±23.82
Mass Media	46.37±9.20	36.50±16.78	41.44±18.69
Books / Magazines / Brochures	49.17±20.72	46.11±17.93	48.17±36.58
Statistical Analysis			
P	0.934 [A]	0.27 [A]	0.448 [A]
Difference	-	-	-
Health Personnel Providing Information			
Midwife	49.36±15.62	46.73±21.66	48.05±33.20
Nurse	43.24±8.91	42.07±18.58	42.77±23.95
Doctor	46.65±11.04	43.19±11.44	44.98±17.75
Physiotherapist	50.77±9.90	44.21±14.91	47.35±20.76
Statistical Analysis			
P	0.333 [A]	0.878 [A]	0.605 [A]
Difference	-	-	-
PFME Frequency			
Multiple times	54.45±12.25	50.76±18.28	51.30±26.46
Once a week	46.45±10.52	45.09±16.28	45.37±19.17
Once a month	41.59±8.99	36.41±14.39	39.01±18.61
Never	30.10±11.11	28.49±12.48	29.07±20.50
Statistical Analysis			
P	**0.001*** [A]	**0.001*** [A]	**0.001*** [A]
Difference	1>2 1>3 1>4	1>2 1>3 1>4	1>2 1>3 1>4

Note: A = ANOVA test; t = Independent samples t-test. *p < 0.05 indicates statistical significance. Pairwise group differences were identified using Tukey's post hoc test.

Discussion

Regarding participants' hearing characteristics, 45.08% (n=87) had hearing loss due to genetic or congenital factors, 34.20% (n=66) due to acquired illnesses, and 20.73% (n=40) due to trauma or accidents. Additionally, 32.64% (n=63) use hearing aids, and 34.72% (n=67) have a family member with hearing impairment (Table 2). The disability percentage ranged from 13 to 95, with a mean of 64.36±15.94. The mean scores were 36.81±14.10 for Efficacy Expectation, 34.60±16.32 for Outcome Expectation, and 35.71±27.03 for the Broome Pelvic Muscle Self-Efficacy Scale (Table 5). Given the variability of PMSES scores across different populations, these findings may reflect diverse influencing factors. Low PMSES scores among healthy pregnant women in Portugal might indicate limited confidence in managing pregnancy's physical and emotional demands (Pires et al., 2020). Conversely, moderate PMSES scores among Korean women suggest a more positive attitude towards pelvic floor muscle exercises (PFME) in that cultural context (Shin et al., 2020). High PMSES scores among healthy university students in Pennsylvania likely reflect positive health awareness and attitudes towards physical activity in young women (Tremback-Ball et al., 2012). This suggests that confidence in health and body image may enhance PMSES scores. Cultural differences and educational levels may thus impact PMSES results. For marginalized groups, such as DHH women in Turkey, challenges in accessing health information and social support might negatively affect their PMSES scores.

In this study, only one-third of DHH women reported knowledge of pelvic floor muscle exercises (PFME), with the majority of this information coming from healthcare providers, particularly midwives (Table 4). This finding aligns with Sut et al., (2018), which indicated that 16.5% of DHH women aged 18-65 without other disabilities knew about PFME, with 25% obtaining information from healthcare professionals and 33.7% from the internet. Similarly, Hill et al., (2017) reported that 17.4% of pregnant women were unaware of PFME, and among those who were, 49.9% had received information from midwives. McLennan et al. (2006) found that 46% of postpartum women had not been informed about PFME. Although the awareness of PFME among DHH women in this study is lower compared to other studies, the sources of information are similar. Several factors may contribute to the low awareness of PFME among DHH women. Firstly, over half of the participants in this study had only primary education, which may have limited their exposure to health education. The inadequacy of educational and informational efforts within the healthcare system, especially concerning women's health, may further exacerbate this issue. Notably, 71.5% of the women in this study had not heard of PFME, highlighting significant gaps in health education. Marginalized groups, such as DHH women, often face challenges in accessing healthcare services, which can limit their access to essential health information. Limited internet and media usage among women in Turkey may also impede their knowledge of PFME. Additionally, traditional and cultural norms in Turkey may restrict discussions about sensitive health issues, including PFME, leading to insufficient support and information from communities and families. These combined factors likely contribute to the low awareness of PFME among DHH women in Turkey.

In this study, healthcare personnel emerged as the primary source of information about pelvic floor muscle exercises (PFME) (Table 4). This finding aligns with Sut and Kucukkaya (2018), who also identified healthcare professionals as the leading source of PFME information in Turkey. The prominence of healthcare personnel as an information source for the hearing impaired may be due to their ability to offer personalized, face-to-face communication. While digital resources like the internet and media have broad reach, they may face challenges in effectively addressing the needs of special populations, such as the hearing impaired. Healthcare professionals can adapt their communication methods to meet individual needs and build trust through direct interaction. Their specialized training in working with the hearing impaired further enhances their effectiveness in disseminating PFME information.

In this study, it is an expected outcome that midwives and nurses emerge as the primary

sources of information for pelvic floor muscle exercises (PFME) (Table 4). In Turkey, each individual has a family physician, and the family health personnel working alongside the family physician are typically composed of nurses and midwives. Therefore, nurses and midwives generally serve as the first point of contact for health education and communication. Additionally, midwives, who often provide women and child health services independently in rural areas, are expected to be the primary sources of information about PFME in this context.

In the research, there was no statistically significant difference in the total PMSES levels of the participants in terms of their mode of delivery, number of births, and menopausal status ($p>0.05$, Table 7).

The research found no statistically significant differences in the total PMSES levels related to participants' mode of delivery, number of births, or menopausal status ($p>0.05$, Table 7). In Turkey, health check-ups at Family Health Centers are mandatory annually for all individuals, with DHH women of reproductive age required to undergo check-ups at least twice a year. Pregnant DHH women are expected to have at least four check-ups during pregnancy, and postpartum DHH women are scheduled for six visits in total. Despite these requirements, the fact that seven out of ten DHH women have never heard of PFME indicates a significant awareness gap. This suggests that healthcare professionals may not be adequately addressing PFME, highlighting the need for targeted educational interventions.

The research findings reveal a statistically significant difference in total PMSES levels based on awareness and knowledge of PFME, as well as the frequency of exercise application ($p<0.05$, Table 8). Participants who were informed about PFME had notably higher PMSES scores compared to those who were unaware or did not practice the exercises. This indicates that awareness and regular practice of PFME are linked to increased self-confidence and efficacy in performing these exercises. Literature supports that individuals who are confident in their knowledge and see the benefits of a practice are more likely to engage in it (Tremback-Ball et al., 2012; Arkan, 2018). These results highlight the importance of education and informed practice in implementing PFME effectively and suggest that healthcare professionals should develop programs to enhance awareness, knowledge, and adherence to these exercises.

Limitations of the Research: The study sampled DHH women in Sivas who used sign language and were diagnosed with hearing impairment. Excluded were rural, illiterate women and those with additional disabilities like visual or physical impairments.

Conclusion and Recommendations: This study reveals that most DHH women are unaware of PFME and lack sufficient knowledge. PMSES scores varied based on pregnancy status, PFME knowledge, and practice frequency. To address this, educational programs tailored to DHH women are recommended, focusing on these variables. Public health nurses and midwives can use one-on-one models, visual aids, and technology. Additionally, healthcare workers should be encouraged to learn sign language, and sign language lessons should be included in undergraduate programs to improve communication skills with hearing-impaired individuals. Future research should include interventional studies to enhance PFME self-efficacy, increasing awareness and practice, ultimately improving healthcare access and quality of life for DHH women.

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