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Health Behaviors of Health Practitioners about Folic Acid in Mazandaran Province, Sari, Iran

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Abstract: Folic acid is known as a useful vitamin in prevention of metabolic disorders due to vitamin deficiency. By taking into account, the state program for the routine usage of folic acid was investigated. The aim of this paper is to evaluate the existing knowledge about folic acid among health practitioners in Mazandaran province and its importance in nutritional scheme. This descriptive- sectional study was conducted on 400 health care workers. Samples were calculated on the basis of variance of awareness of maternal about iron tablets in housewives With confidence intervals (CI) 95% and 90% of test power. Samples were selected systematic randomly and the level of awareness was defined with the researcher questionnaire as face to face interviews by questioner. Validity of questionnaire was confirmed with 10 experts and Cronbach, s alpha was calculated 94% for confirming of reliability for 5% of samples. Data were analyzed with spss software and $p<0.05$ was considered as significant level. About 34.7% of staff had good knowledge and been well aware of the importance of folic acid. Also the awareness of health practitioner about folic acid and other aspects of it were moderate. Because of the main role of health practitioner in transferring information about nutrition during pregnancy, reeducation classes are suggested for more efficiency with the state program.

Key words: Folic acid · Health knowledge · Health practitioner · Counseling · Vitamin deficiency

INTRODUCTION

Folic acid deficiency is one of the most common vitamin deficiency pregnant women [1]. In developing countries, lack of folic acid has been reported in women with breast feeding [2, 3]. Folic acid is water soluble B vitamin that is present in green leaves [3, 4]. Folic acid metabolic action as co-enzyme used in synthesis of DNA, RNA, growth, reproduction, lactation, antibody formation and fetus cell division [2, 5]. It has been reported that this vitamin is required more during pregnancy for fetus placenta growth [3, 6]. For the first time, the relation between folic acid deficiency and neural tube defects (NTD), in fetus was found [4]. Each year, more than 4000 NTD neonates are reported in Europe and elsewhere [5, 7-9]. Other report indicated that folic acid deficiency leads to weight, labor, placenta abortion, cardiovascular disease, risk of cancer development and depression [5, 6, 8, 10-14]. Controlled studies showed that, during pregnancy (at least one month before pregnancy) about 0.4mg of folic acid per day reduce 50 to 70% of NTD [6, 10, 15]. In spite of this relation majority of the females are unaware of its significance in prevention of the disorders [13, 16-19]. About 50-97% of women intended for pregnancy and/or at the beginning of pregnancy do not use folic acid [20]. Unfortunately they are not recommended by their physicians to use folic acid [16]. It is believed that the first key pointed out in use of this vitamin was the health care staff be aware of its importance in prevention of NTD and consulate about daily use of folic acid [16, 21]. But existing data showed that less health professionals are aware of its significance and importance [16]. Folic acid prescription during pregnancy is the routine health program in most of countries [13-15, 22]. The health staff performance in this regard has not been investigated in Iran yet. Considering the significance of folic acid and the role of health staff in usage of folic acid in women, research was conducted. On the basis of health behaviors health staffs of Mazandaran University of Medical Science, this investigation was carried out on folic acid.

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MATERIALS AND METHODS

This descriptive- sectional study was conducted on 400 health care workers in Mazandaran province. Samples were calculated on the basis of variance of awareness of maternal about iron tablets in housewives with formula:

$$n = \frac{(z_{1-\alpha/2} + z_{1-\beta})^2 * [p_1(1-p_1) + p_2(1-p_2)]}{(p_{1-}p_2)^2}$$

With confidence intervals (CI) 95% and 90% of test power. Samples were selected systematic randomly and the level of awareness was defined with the researcher questionnaire as face to face interviews by questioner. Validity of questionnaire was confirmed with 10 experts and Cronbach's alpha was calculated 94% for confirming of reliability for 5% of samples. Data were analyzed with spss software and $p<0.05$ was considered as significant level.

RESULTS

The mean age and their experience were 34.09±7.23 (age in the range of 20-60 years) and 8.18± 6.2 years (in the range of 1-30 years), respectively. 35.2% (222 individuals) were health staff with bachelor degree, 26.9 % (106 persons) general physician and 11.6% obstetrician (45 individuals and the number of mid wife was 34% (136). Level of awareness in majority of the samples (46. 8%) about the properties of folic acid, prescription and side effects in lack of intake in risk groups was moderate. General physicians and obstetricians had the highest of knowledge (34.7%) and the lowest knowledge was in health service staff ($p< 0.02$).

Tables 1, 2 are shown the frequency distribution of awareness level about Folic acid's properties in terms of job and work place in staffs. Also there are illustrated Figures 1-5 that show the level of awareness in gynecologist, General Practitioner, mid wife and health workers about acid folic, separately.

Table 1: The frequency distribution of awareness about Folic acid properties in terms of job

		Awareness									
Variable		High		Good		Average		Low		Very low	
Course	A gynecologist	17	15.20	9	19.50	30	65.20	-	-	-	-
	General Practitioner	43	40.56	32	30.18	21	19.81	7	6.60	3	2.83
	Midwife	35	25.73	37	27.20	35	25.73	18	13.23	11	8.08
	Health worker	11	4.95	52	23.42	34	15.31	15	6.75	110	49.54

Table 2: The frequency distribution of awareness about Folic acid properties in terms of work place

			Awareness									
			High		Good		Average		Low		Very Low	
Demographic variable			Number	%	Number	%	Number	%	Number	%	Number	%
Work places	A gynecologist	Private office	10	34.48	12	41.37	7	24.13	-	-	-	-
		Hospital	6	37.50	6	37.50	4	25.00	-	-	-	-
		Health center	1	100.00	-	-	-	-	-	-	-	-
	General Practitioner	Private office	19	52.70	9	25.00	3	8.33	3	8.33	2	5.55
		Hospital	7	35.00	8	40.00	3	15.00	1	5.00	1	5.00
		Health center	17	34.00	16	32.00	5	10.00	7	14.00	5	10.00
	Midwife	Private office	21	50.00	18	42.85	16	38.09	9	2.14	5	11.90
		Hospital	7	11.47	9	14.75	8	13.11	95	8.19	4	6.55
		Health center	7	21.21	10	30.30	11	33.33	4	12.12	2	6.06
	Health worker	Private office	-	-	-	-	-	-	-	-	-	-
		Hospital	9	33.33	11	40.74	3	11.11	2	7.40	2	7.40
		Health centers	67	34.35	71	36.41	33	16.92	13	6.66	11	5.64

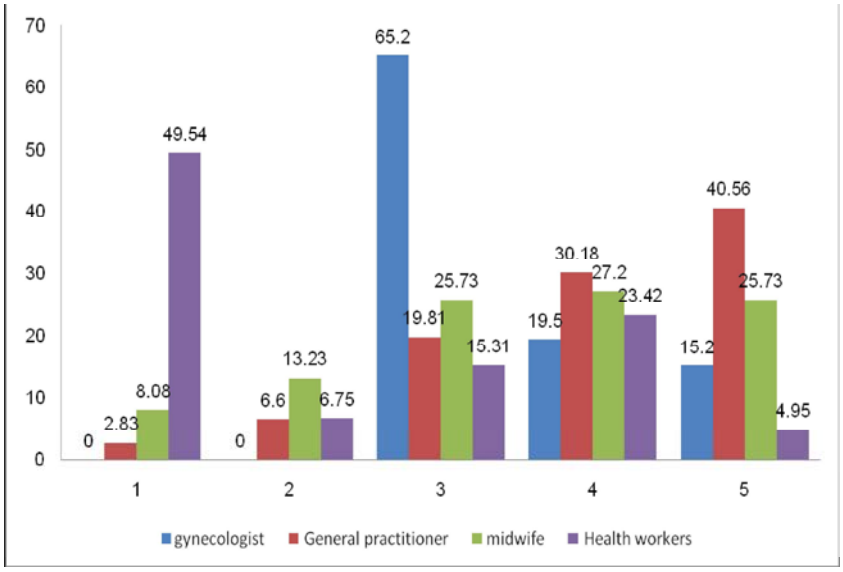


Fig. 1: The level of awareness in staffs about properties of folic acid in terms of Job

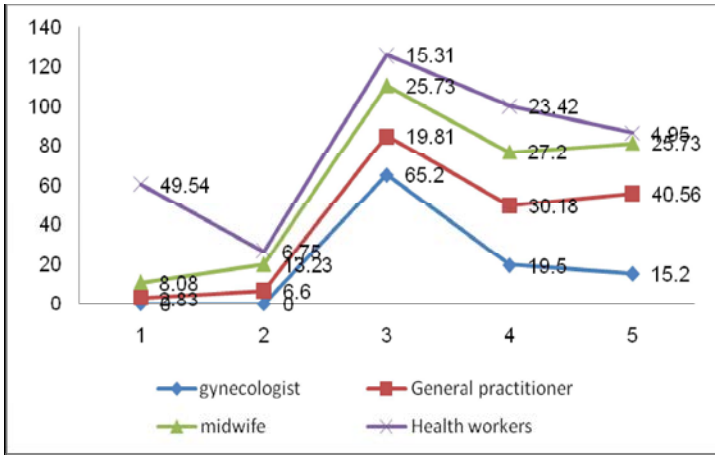
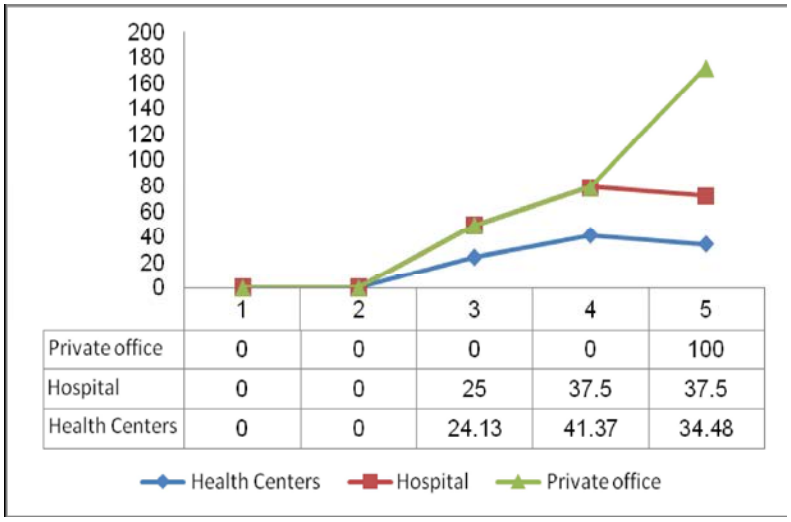


Chart 1: The level of awareness in staffs about properties of folic acid in terms of Job



	1	2	3	4	5
Private office	0	0	0	0	100
Hospital	0	0	25	37.5	37.5
Health Centers	0	0	24.13	41.37	34.48

Fig. 2: The level of awareness of gynecologist about folic acid in terms of work place

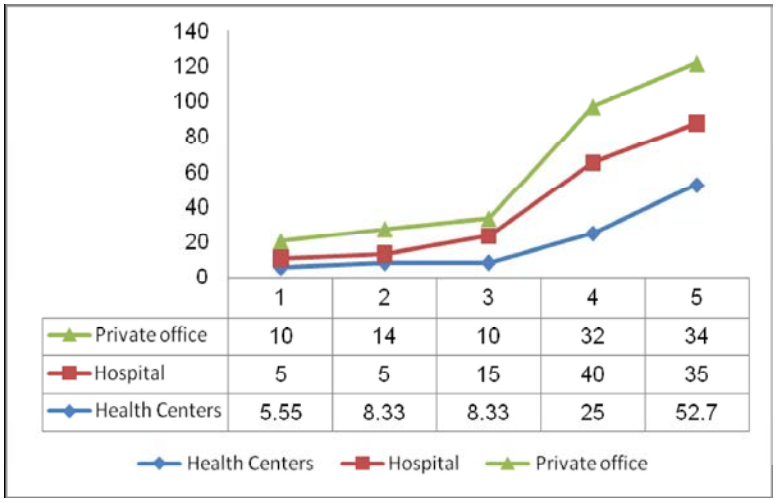


Fig. 3: The level of awareness of General practitioner about folic acid in terms of work place

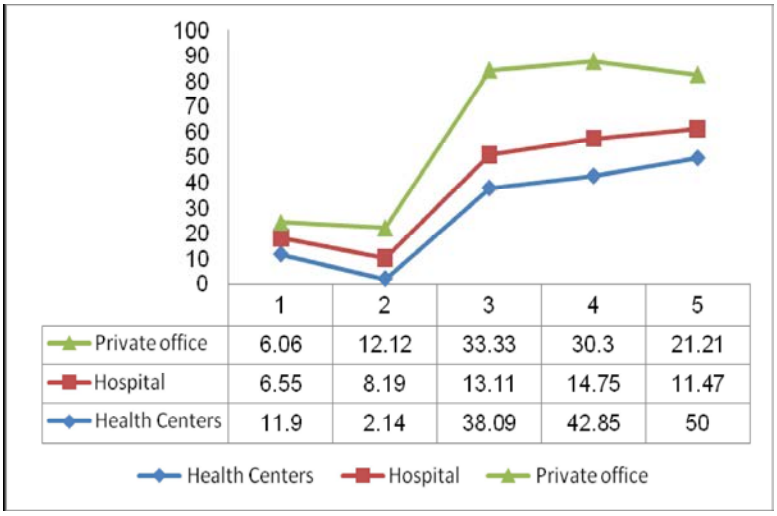


Fig. 4: The level of awareness of mid wife about folic acid in terms of work place

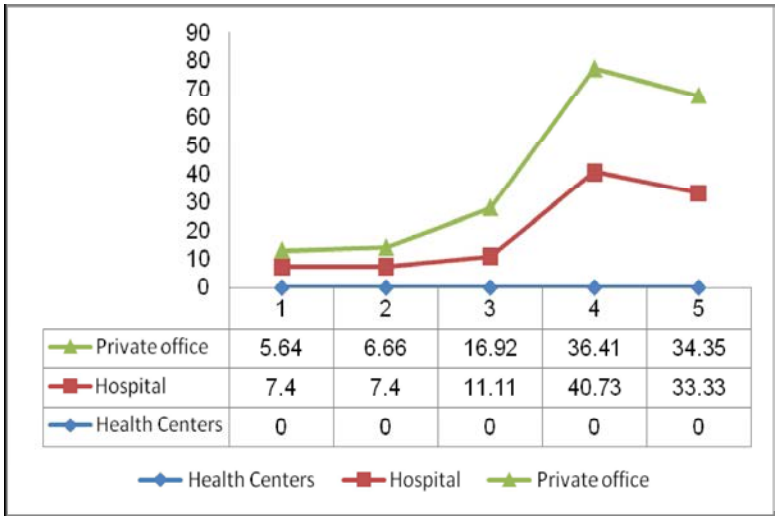


Fig. 5: The level of awareness of Health practitioners about folic acid in terms of work place

DISCUSSION

The decade in relationship between nutrition and safe reproduction and also from the discovery of folic acid in prevention of NTD has been frequently reported in literatures [2, 4, 11, 16, 18, 23, 24]. This discovery led to use of folic acid prior to gestation and efforts to know further properties [21]. In Iran, the recommended and a routine dose of folic acid by Ministry of Health ministry is 0.4 mg. But public awareness is dependent on practice of specialists and health service staff to convince pregnant women to intake and keep up the certain dosage.

The present study showed that majority of health professionals had moderate awareness and lowest knowledge towards the use of folic acid. World reports indicated that minority of health professionals know about the dose and time of folic acid administration. Freil and his coworkers [25] have demonstrated that only 14.3% of the health professionals are aware of the time of folic acid intake. In united state, about 50% of the obstetricians were not aware of the other properties of folic acid (expert in prevention of NTD) [11, 23].

If the knowledge is high, there is no certainty of transforming the information to the pregnant women [23]. As is shown more than one third of samples under study do not counsel with the women about the consumption of folic acid and foliate. In Canada, 17% of the health professionals recommend for folic acid to women [5]. In Australia only 37% of the informing source were and 2% midwifes and pharmacists [26]. In a stratified study conducted in Ireland, the general physician consisted 3.8% of informing sources [26].While women prefer to receive information from health professionals. Some of the researchers believe that if the health professionals spend more time on description about folic acid properties, the rate of consumption would increase [27]. It is recommended that the way of using folic acid should be investigated, because the reports indicate that women intake of folic acid is low dose [4, 28, 29]. This significant findings show the professional's practice about folic acid. Increase in intake of foliate prior to neural tube formation [30]; even when female still is not sure about effective dose and even high loads may cause miscarriage of her pregnancy [23, 25, 26, 31]. The best time for recommendation of folic acid is during fertility Period and prenatal visit [21, 30, 32]. Therefore, when a women reveres to health center, professionals should consult with them about folic acid properties. It is recommended that all of pregnant women in fertility period should consider folic acid or fortified food as part of food regimen [16]. Posters and booklets can increase understanding of the women and create chances for specialists to follow important issue of folic acid. Results showed that one third of the cases under study follow the use of folic acid by women. Less than one sixth of them, consider this follow-up as measuring serum foliate level. While researches believed that measuring of serum folic acid level is much more valuable than inquiring the women about consumption of folic acid because of those who are not serious about folic acid consumption may not respond proper answer [21]. Increase of blood hemosysteine level is a cardio vascular risk factor and reduction in foliate intake level is a predisposing factor [23, 27]. Also researchers reported that there are relations between the foliate reduction and uterus cancer [27]. Therefore, the relationship between foliate and disease, NTD have been approved that foliate has a very important role in health promotion especially in women at their old age period.

CONCLUSION

Knowledge of the health employees about the relationship between folic acid and the other aspect of foliate and diseases except neural tube was moderate level, whereas the use of folic acids played an important role in cardio vascular diseases and cancers. Since the health staff act important role in transforming of the knowledge and required information about nutrition to female patient at childbearing period, conduction of training course are recommended in order to increase health practitioners' knowledge and practice with the routine health program. Such educational program delivers public awareness.

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