Original Article

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Effect of Socio-Economic Factors on Reproductive Health in Female Heads of Household: A Cross-Sectional Study in Iran

Obstetrics and Gynaecology Section

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ABSTRACT

Introduction: Attention to reproductive health and its related factors is an essential step towards the promotion of health in societies and families with an emphasis on role of women. Considering the increase in the number of female headed households and the important role of social and economic factors on all aspects of their health, investigating the effect of these factors on reproductive health is necessary in this susceptible group.

Aim: To investigate the effect of socio-economic factors on reproductive health in female heads of household.

Materials and Methods: This cross-sectional study was conducted on 420 female-headed households from four regions of north, south, east and west of Zahedan using purposive sampling. Data was collected using a demographic characteristic form, socio-economic status questionnaire and reproductive health questionnaire. To analyse the data, descriptive and inferential (Chi-square test and binominal logistic regression) statistics in SPSS version 21 was used.

Results: There was a significant relationship between reproductive health and the level of income, educational and occupational status of the participants ($p<0.05$). Level of income was revealed to have the highest effect on reproductive health (CI: 0.074-0.915, OR=0.26). As well as the chances of having undesirable reproductive health status were lower in the females with higher education (CI: 0.099-0.891, OR=0.296), and in employed women. (CI: 0.182-0.815, OR=0.385).

Conclusion: The socio-economic factors, especially the level of income, played an important role in the reproductive health of the female-headed households. Consequently, extensive planning seems crucial to improve the level of income in this vulnerable group of society.

Keywords: Head of household, Reproductive health, Socio-economic factors, Women

INTRODUCTION

Reproductive health and addressing its various dimensions are considered as the key steps in ensuring the health of the community and families with a focus on women's health. Reproductive health has been considered by the World Health Organisation (WHO) and the Commission on Population and Development since 1994 as one of the indicators of development in countries [1]. This area of health includes extensive services such as safe motherhood, family planning counselling, prevention and treatment of reproductive system infections, sexually-transmitted diseases, as well as prevention and treatment of gender-based violence [2].

Reproductive health problems are the leading cause of illness and death in women of reproductive age worldwide. Annually, 80 million women experience unwanted pregnancy, with 42 million of these pregnancies being aborted [3]. More than half a million women lose their lives due to pregnancy, childbirth, and postpartum complications, and 340 million suffer from sexually-transmitted diseases [4]. Violence against women has become the most serious social problem in recent years, with many adverse psychological and physical consequences [5].

Multiple factors play role in the problems of reproductive health, but hidden social factors exacerbate this issue [6]. WHO refers to gender, income, education, employment, and ethnicity as social determinants of health inequity, because each of these factors, by themselves or through impact on each other, leads to inequities in health [7]. In fact, low literacy, undesirable socio-economic conditions, and sexual inequalities are among the factors behind women's inability to promote reproductive health [8]. Meanwhile, some women, who are responsible for providing the family members with material and spiritual welfare alone, as they are the heads of household due to some reasons such as divorce, death or addiction of the spouse, unemployment or spouse immigration are more vulnerable than others [9].

Today, 60% of women are breadwinners, and the number of single-parent households is steadily growing in the western world. In Iran, also the number of female heads of household has been on a growing trend in the past decade in a way that the female heads of household increased from 9.5% in 2006 to 12.1% in 2011 [10]. The health of this group of women is at risk due to the following reasons: a) lack of sincere communication that provides social and emotional support for improving health; b) stress from loneliness that has short or long-term effects on health; and c) labelling as single mothers [10,11].

In recent years, international development agencies and institutions have considered female heads of household as the poorest since they are not able to maintain and improve their health due to many social and economic problems and health inequities are the greatest among this group [12].

Considering the importance of fertility and its adverse consequences on one hand, and the growing population of this vulnerable and poverty-stricken group on the other hand, it is necessary to study the factors affecting fertility in female heads of households. Therefore, the purpose of this study was to investigate the reproductive health and the social and economic factors affecting it in female heads of household in the Iranian community.

MATERIALS AND METHODS

This cross-sectional study was conducted on female heads of households in Zahedan, Iran during August 2016-Februrary 2017. Based on geographic locations, Zahedan was divided into four

regions of north, south, east and west. Then the centres such as schools, health centres and hospitals were randomly selected from this areas and sampling was performed using purposive sampling method. The study was approved by the Research Ethics Committee of Faculty of Nursing and Midwifery of Shahid Beheshti University of Medical Sciences Tehran, Iran (code number: IR.SBMU.PHNM.1395.49) and written informed consent was obtained from all the participants. After explaining the objectives of the study, the questionnaires were completed by the subjects or researcher in case of illiteracy of the participants.

Inclusion criteria was being an Iranian by nationality, being at least one year from their head of household period, absence of underlying medical conditions and drug use, and tendency to participate in the study. Exclusion criteria was unwillingness to continue to participate in the study and non-responses to more than 10% of the questionnaire items.

The sample size of the study was estimated as 420 using the Cochran formula for unknown population, with a standard deviation of the score being 10 (σ=10), the error value of 1 (d=1), type I error (α=.05, z=1.96) taking into account a 10% attrition.

Data collection: Three questionnaires were used for data collection as follow: (i) demographic characteristics; (ii) socio-economic status; and (iii) reproductive health questionnaire.

Demographic questionnaire: The demographic characteristics form contained 18 items concerning age, ethnicity, age at marriage, marital status, number of children, and duration of being household head.

Socio-economic questionnaire: The socio-economic status questionnaire was a researcher-made instrument including 20 items. The items covered the areas of educational levels of females and males (in case of the presence of the male spouses), occupational status of the female heads, monthly income, housing condition in terms of owning properties, family size, employed children, having life facilities and supportive organisations. The validity of the questionnaire was confirmed by 10 faculty members of the nursing and midwifery school of Shahid Beheshti University of Medical Sciences, Tehran, Iran. Furthermore, the test-retest reliability was measured through giving the questionnaire to 30 eligible individuals in two rounds with a 14-day interval. The correlation coefficient was estimated as 0.76, which is statistically significant at the p<0.01.

Reproductive health questionnaire: The questionnaire consists of 114 questions and has six subscales including maternal safety, family planning, sexually-transmitted diseases, AIDS, sexual function and gender-based violence. This questionnaire assesses the reproductive health status. The score of 0 and 1 was assigned to each item in the questionnaire, for instance, the samples who received pregnancy care, were not the subject of violence, and knew about at least five HIV/AIDS transmission routes, was given score of 0. On the other hand, the samples who received no pregnancy care, were the victim of violence, and knew less than five HIV/AIDS transmission routes, given score of 1 [2]. Based on the total score obtained in this questionnaire, the samples were classified as desirable reproductive health (<50 score) and undesirable reproductive health (≥50 score) groups.

The validity and reliability of this tool were approved in a study carried out by the UNFPA (United Nations Population Fund) and NEDICO (New Consulting Dimension) in Zimbabwe in 2008 [13]. Moreover, Khani S et al., assessed the reliability and validity of this tool in Iran [2]. In the present study, the validity of this questionnaire was evaluated using the content validity. For this the questionnaire was submitted to 10 experts, the confirmation of whom was indicative of approved content validity. Additionally, in order to assess the reliability of the questionnaire, 30 eligible individuals completed the questionnaire in two rounds with a 14-day interval. In this regard, the correlation between the scores of the questionnaire was obtained as 0.81.

STATISTICAL ANALYSIS

Data analysis was performed using SPSS software (Statistical Package for the Social Sciences, version 21.0, SPSS Inc., Chicago, Illinois, USA). We used descriptive (i.e., frequency, mean, and standard deviation) and inferential (i.e., Chi-square test and binominal logistic regression). Finally, p<0.05 was considered statistically significant.

RESULTS

The mean and standard deviation of the age of female heads of households, the number of dependent children, and headship duration were 34.47±8.03 years, 3.16±2.32, and 6.70±4.32 years, respectively. Regarding the income, most of the participants (67.9%) reported a monthly income less than 15000000 IRR. Majority of participants (77.4%) were housewives and most of them (61%) were divorced or widows [Table/Fig-1].

Variable		Mean±SD
Age		34.47±8.03
Marriage age		18.73±4.09
Underage children (under the age of 18)		3.16±2.32
Working children		0.42±1.32
Duration of headship		6.70±4.32
Family size		5.38±2.30
Variable		**Number (Percent)**
Marital status	Divorced or widowed	256 (61)
	Married	164 (39)
Husband status	Unemployed	133 (31.7)
	Disable	7 (1.7)
	Addicted	18 (4.3)
Women's jobs	Housewives	325 (77.4)
	Employed	95 (22.6)
Women's education	Middle school and lower	265 (63.1)
	Secondary school and higher	155 (36.9)
Husband's education	Middle school and lower	106 (25.2)
	Secondary school and higher	58 (13.8)
Family income (IRR)	15000000>	285 (67.9)
	15000000≤	135 (32.1)
Having a bank account	Yes	148 (35.2)
	No	272 (64.8)
Housing situation	Landlord	83 (19.8)
	Renter	337 (80.2)

[Table/Fig-1]: Characteristics of the participants at baseline based on descriptive statistics.
The number of participants=420

In terms of reproductive health status, the findings showed that, out of a total of 420 samples, 218 (51.9%) were at undesirable and 202 (48.1%) were in desirable condition. There was a significant relationship between marital status, educational level of females, women's employment status, family income and family size with the reproductive health status (p<0.01). [Table/Fig-2].

Binominal logistic regression using the likelihood ratio method (forward: LR) was applied to evaluate the share of socio-economic factors in prediction of the reproductive health status. The results of this analysis revealed that the level of income, occupation and educational level of the female heads of household were the best predictors of reproductive health and the other variables were removed from the regression. Among these three variables (i.e., level of income, occupation and educational level), the level of income was the most effective factor in this regard (CI: 0.074-0.915, OR=0.260). In general, the probabilities of exposure to undesirable reproductive health status were 0.260, 0.296 and 0.385 lower in

Variable		Reproductive health		p-value
		Desirable	Undesirable	
		Number (Percent)	Number (Percent)	
Age	20-29	96 (71.6)	38 (28.4)	0.384
	30-39	96 (64)	54 (36)	
	≥40	86 (65.2)	46 (34.8)	
Marital status	Divorced or widowed	68 (26.6)	188 (73.4)	<0.001
	Married	90 (54.9)	74 (45.1)	
Women education	Middle school and lower	116 (43.8)	149 (56.2)	<0.001
	Secondary school and higher	129 (83.2)	26 (16.8)	
Husband education	Middle school and lower	55 (51.9)	51 (48.1)	0.133
	Secondary school and higher	36 (62)	22 (38)	
Women job	Housewives	198 (60.9)	127 (39.1)	<0.001
	Employed	80 (84.2)	15 (15.8)	
Family income (IRR)	15000000>	164 (57.5)	121 (42.5)	<0.001
	15000000≤	114 (84.4)	21 (15.6)	
Housing status	Landlord	54 (65.1)	29 (34.9)	0.698
	Renter	224 (66.5)	113 (33.5)	
Family size	1-3	58 (80.6)	14 (19.4)	0.006
	≥4	124 (36)	220 (64)	

[Table/Fig-2]: Distribution of Female-Headed Household according to reproductive health status and socio-economic factors based on Chi-square test (N=420).

the females with an income level of ≥15 million IRR and secondary and higher education (CI: 0.099-0.891, OR=0.296), as well as the employed ones (CI: 0.182-0.815, OR=0.385), compared to their counterparts with an income level of <15 million IRR and education level of junior high school and below, as well as housewives, respectively [Table/Fig-3].

Variable		B	S.E	OR	95% CI	p-value
Family income (RLs)	>15000000	Ref				
	≤15000000	-1.347	0.642	0.260	0.074, 0.915	0.036
Women education	Middle school and lower	Ref				
	Secondary school and higher	-1.216	0.562	0.296	0.099, 0.891	0.030
Women job	Housewives	Ref				
	Employed	-0.953	0.382	0.385	0.182, 0.815	0.013

[Table/Fig-3]: The relationship between reproductive health status and socio-economic factors in female-headed households based on binominal logistic regression. OR: Odd ratio; CI: Confidence interval; Ref: Reference group; S.E: Standard error; B: Un Standard coefficient; Values are significant at p<0.05

DISCUSSION

This study was conducted in order to evaluate the relationship between the socio-economic factors and the reproductive health of female heads of household. There is no study on the reproductive health and the role of socio-economic factors on the female householders; therefore, the results were compared with other studies in other women's population.

According to the results, out of the eight socio-economic factors, only three factors predicted reproductive health status. These factors included the level of income, educational level and occupational status. Our findings indicated that the level of income had a strong effect on the reproductive health of female and women with high income levels had better reproductive health.

Likewise, Acharya DR et al., introduced the level of income as an important factor affecting decision-making of the female heads of households in terms of fertility issues [14]. In another study, Becker D et al., found a significant relationship between income and the ability of women to resolve fertility problems. They concluded that female subjects with low level of income failed to express their fertility problems and concerns and did not receive sufficient attention from the healthcare providers [15].

In a study by Davis SK et al., economic security was a major contributor to HIV prevention in black women [16]. Accordingly, Kesterton AJ et al., reported the effect of economic status to be more important than the educational level and occupational status regarding the access to fertility services [17]. Economic condition is the most significant challenge for the women. Therefore, an appropriate income would be associated with enhanced power for eliminating healthcare requirements, decision making in reproductive health area and dealing with violence and gender discrimination [18].

According to the results of the current study, the probability of having a desirable level of reproductive health was higher in the female heads of household with higher education, compared to the ones with lower educational level. In a study, Tatina-Bladchi O-l et al., indicated a significant relationship between the level of education of female heads of household and better identification of health problems [19]. Alizadeh M et al., and Envuladu E et al., showed that maternal and children's mortality is lower in women with higher levels of education. Also, the women with higher educational level had healthier behaviours in terms of reproductive health [20,21]. The results of the mentioned studies are in agreement with ours.

Higher educational level is associated with more learning opportunities, the perception of an individual toward health outcomes might get enhanced, leading to more efforts for maintaining health in all aspects [22-24]. The probability of undesirable reproductive health was lower in the employed women, compared to the housewives. Occupation has a dual effect on women's health. On one hand, the contradiction of roles in combination with domestic obligations exposes the health of these individuals to danger and on the other hand, favorable occupational conditions, such as income, benefits, and job security, have the most prominent effect on various aspects of women's health [25]. Employment and improved living status lead to the economic empowerment of the female heads of household, which help resolve the health needs at any stage of life [26]. Moreover, employment can enhance women's values, raise access to information databases due to social interactions, and promote their decision-making power regarding the various dimensions of reproductive health. Therefore, the employed women have more knowledge about reproductive health, compared to the unemployed ones [11]. Employment status, income and educational level are considered as the most important indicators of social and economic status, thus, they can affect women's ability to achieve reproductive health. Accordingly, regarding the increased number of female-headed households, the policy-makers, planners, and specialists of health and development must be aware of the economic and social impacts on the health status of the women.

Since reproductive health is critical to family's health, especially for women and girls, studying its status, especially in vulnerable groups, is necessary. Given that there is a lack of comprehensive information on fertility and the factors affecting it, especially in female heads of households, this study could pave the way for larger studies in vulnerable populations.

LIMITATION

This study was conducted only on female heads of households in Zahedan. In order to more accurate assessment of the reproductive health status and the factors affecting it, especially among vulnerable groups, designing and conducting such studies more widely seems to be necessary in all provinces of Iran.

CONCLUSION

The socio-economic factors, especially the level of income, played an important role in the reproductive health of the female-headed households. A major proportion of health inequality is avoidable, because it is as a result of the modifiable factors such as income, employment and education status. Based on the importance of the impact of social factors on health dimensions, in particular reproductive health, policy interventions should be guided to improve the economic and social status of female headed households. In addition, further qualitative and quantitative research should be performed in order to determine the other social determinants of health. The evaluation of these factors could provide an appropriate path toward performing effective interventions in this regard.

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