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RESEARCH ARTICLE

# Relationship Between Some Social Determinants of Health and Physical, Psychological and Social Health of Women in 2015 in Arak

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**Abstract:**

***Background:***

Considering the socioeconomic aspects, it is important to understand the psychological, emotional and social needs and abilities of women.

***Aim:***

This study attempts to investigate the association of some social determinants of health with the physical, psychological, and social health of women.

***Methods:***

A cross-sectional study was conducted on 258 women in Arak, Iran based on cluster sampling. The physical, psychological and social health of women was presented by a questionnaire and they were given a written consent at home. The physical health questionnaire (SF-36) was used to inquire about the physical health. The Goldenberg general health questionnaire was used for the psychology health, and the Keyes social health questionnaire (33 items) was considered for social health.

***Results:***

The results showed that there is a relationship between physical health and age ($p = 0.05$), but the relationship between social and mental health was not significant. This research showed that there was no relationship between the income and the physical, psychological and social health. There was also a significant relationship between mental health and occupation. There is a negative and significant relationship between social support and mental health ($p = 0.05$).

***Conclusion:***

The social variables are the complex issues with an important relationship with the health, especially for women who are more affected by the physiological structure and various social roles.

**Keywords:** Social health, Mental health, Physical health, Social determinants, Physiological structure, Social roles.

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|---|---|---|---|

## 1. INTRODUCTION

The World Health Organization's definition of health is "a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity". Women's health is one of the main focuses and indicators of development. Hence, it is of great importance to recognize women's psychological and emotional needs and features as well as their abilities in socioeconomic aspects. Today, the health and social well-being of women, who constitute half of the population of the society, is not only recognized as a human right, but its impacts on the health of family and community are also increasing [1]. Women's health, due to their biological characteristics and fertility as well as their central role in the family and society, is different from that of men and is considered very important. According to the World Health Organization, women have been exposed to greater risks of

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poverty, hunger, malnutrition, overwork, and sexual abuse because of their multiple roles in family and community, and passing different physiological periods such as puberty, menstruation, pregnancy, childbirth, and menopause; therefore, they are considered as a high risk group [2, 3]. The studies showed that women experience domestic violence in most societies [4, 5] and are more susceptible to sexually transmitted diseases and HIV [6, 7]. Cervical cancer is the second most common cancer in women [8, 9] and breast cancer is the second leading cause of death in women [10, 11]. The prevalence of mental illness, including depression, is twice more in women [12], and the studies proved that the prevalence of mood disorders and anxiety is higher in women [13, 14]. Today, the move towards justice in heath has been emphasized, through social determinants. The social determinants are the conditions in which people are born, grow, live and work, such as sex, age, social class, social support, unemployment, squatter settlement, and immigration, which all affect individuals' health [7, 15, 16]. The model of Social Determinants of Health was first presented in the Alma Ata Declaration in the form of a health strategy for all [17]. Poverty in women is shown as malnutrition, inadequate housing, inadequate access to health care services, high risk pregnancies such as preeclampsia abortion, preterm labor, suffering from HIV more than men, lack of decision-making power about their conditions of life, and violence and sexual assault. Most women are engaged in low-income low-level jobs and, due to employment problems, face risks all over the world, which threatens their health, lives, and well-being [18 - 23]. Moreover, occupation, gender discrimination, maternal and spouse duties, violence, education, and ownership are some of the social factors that can be seen in different forms in the societies and cultures [22, 24 - 26]. This study aims at investigating the relationship between some social determinants of health and women's physical, mental, and social health.

## 2. MATERIALS AND METHODS

The present cross-sectional study was conducted on 258 women in Arak. The sample number was calculated by d=0.05,p=q=0.5,t=1.96 and α=0. In this study, the city of Arak was divided in three regions. The sampling method was single-stage clustering sample. One cluster from each region, and a neighborhood from each region was randomly selected and then the females in the selected neighborhood were interviewed at the door of their houses. Response rate was 100%, but it decreased in some questions to 90% (Table **1**). The single and married women, in each family, who had the willingness to participate in the study entered the project. They also provided informed written consent form. The inclusion criteria were willingness to participate in the study, absence of any physical or mental diseases under treatment. The questionnaires used in this study were the demographic characteristics including age, occupation, level of education, marital status, income, and social support, and the questionnaires on the independent variable of the present study, including social support, mental, physical and social health. The questionnaires were given to the participants in closed envelopes and were delivered one week after completion at the doors. The participants were asked to answer the questions trustfully and not to leave any question unanswered. Assessing physical health, the Physical Health Questionnaire derived from the items of physical dimension in the Short Form (SF-36) Health Survey was used. This survey is translated into Persian [12]. Also, Goldenberg's General Health questionnaire (its short form, 12 items) was used for assessing mental health [27]. It is also translated to Persian and the reliability of this questionnaire was calculated as 0.87 [28], using Cronbach's alpha. Keyes's questionnaire was used to assess social health. It consists of 33 items and 5 subscales of social integration, social acceptance, social actualization social contribution and social coherence. The scales range from totally agree to totally disagree. The score of social health ranges from 33 to 165 as higher score indicates higher social health. This questionnaire is also translated and used in Iran [29]. Another questionnaire used in the present study is Philips's social support questionnaire [30]. It is a 23-item questionnaire ranging from totally agree to totally disagree, based on Likert scale. It includes three domains of support of friends, support of family, and support of others. The test reliability was calculated as 0.66 [31]. The methods used in this study are descriptive statistics of mean and percentage and t-test, one-way ANOVA and Pearson correlation.

## 3. RESULTS

The population of the study was 258 females. Their mean age was 28.7± 8.79 years old, 41.8% (109 females) were single and 58.2% (149) were married. The mean duration of marriage was 6.80±6.03; the shortest duration was one year and the longest one was 38 years (Table **1**). As Table **2** shows the mean of physical health was different for different age ranges as the 15-30 year-old-females enjoyed the highest level of health. The results presented in Table **3** indicate that there was no difference in physical-mental health and social health in females with different levels of income. Based on Table **4**, there was a significant difference between mental health and social health and occupation; so that working females showed higher social health and the housewives has higher mental health. Table **5** indicates higher social and social health in single females. As Table **6** shows higher social support results in higher physical and social health, but it is in a significant inverse relationship with females' mental health.

## 4. DISCUSSION

The findings revealed a significantly higher health score in females under 25 years old and a significantly negative relationship between physical health and age as higher age results in declined physical health. However, the findings have no evidence on any relationship between mental and social health and age. The results of a study conducted on 125728 females and 103154 males aiming at comparing the influential social determinants on health in 18 countries showed that females' health aged from 25 to 29 years old was much worse than that of 30-39-year-old males [7]. Females are more likely to be exposed to physical diseases due to different life stages, i.e. pregnancy, childbirth or menopause. The literature shows that the rate of chronic diseases increases with age in females [32 - 34]. The present study showed that there is no significant

**Table1. Mean of demographic variables in women.**

| | | Frequency | Percent |
|---|---|---|---|
| Age | 15-30 | 157 | 60.6 |
| | 30-45 | 87 | 33.6 |
| | 45-65 | 11 | 4.2 |
| | Missing | 4 | 1.5 |
| Marriage status | Single | 107 | 57.5 |
| | Couple | 149 | 98.8 |
| | Missing | 3 | 1.2 |
| Education status | Primary school | 42 | 16.2 |
| | High school | 82 | 31.7 |
| | Diploma | 131 | 50.6 |
| | Academic | 4 | 1.5 |
| Job status | Unemployed | 166 | 64.0 |
| | Employed | 75 | 29.0 |
| | Missing | 18 | 7 |
| Economic status (Toman) | 1000.000 | 29 | 11.2 |
| | 1000.000-2000000 | 97 | 37.5 |
| | 2000000 | 106 | 40.8 |
| | Missing | 28 | 10.5 |
| Live child (Mean±SD) | | 2±0.21 | |

**Table 2. The comparison of physical, mental and social health in relation with the females' age.**

| | | | | 95% Confidence Interval for Mean | | |
|---|---|---|---|---|---|---|
| **Health** | | **Mean** | **Std. Deviation** | **Lower Bound** | **Upper Bound** | **P value** |
| physical | 15-30 | 65.9412 | 14.76315 | 63.5831 | 68.2992 | 0.028 |
| | 30-45 | 60.0769 | 16.88523 | 56.2699 | 63.8840 | |
| | 45-65 | 62.3636 | 20.85796 | 48.3511 | 76.3762 | |
| | Total | 63.8884 | 15.94024 | 61.8700 | 65.9069 | |
| mental | 15-30 | 17.8471 | 6.07977 | 16.8887 | 18.8056 | |
| | 30-45 | 17.2989 | 6.65620 | 15.8802 | 18.7175 | 0.223 |
| | 45-65 | 20.8182 | 7.94756 | 15.4789 | 26.1574 | |
| | Total | 17.7882 | 6.37742 | 17.0017 | 18.5747 | |
| social | 15-30 | 94.3822 | 22.40065 | 90.8508 | 97.9135 | 0.332 |
| | 30-45 | 90.0805 | 27.66713 | 84.1838 | 95.9771 | |
| | 45-65 | 87.6000 | 18.81607 | 74.1398 | 101.0602 | |
| | Total | 92.6417 | 24.23505 | 89.6470 | 95.6365 | |

**Table 3. The comparison of physical, mental and social health in relation with the females' income.**

| | | | | 95% Confidence Interval for Mean | | |
|---|---|---|---|---|---|---|
| **Health** | | **Mean** | **Std. Deviation** | **Lower Bound** | **Upper Bound** | **P value** |
| physical | Under 6000000(Rial) | 65.0370 | 16.40938 | 58.5457 | 71.5284 | |
| | 6000000-10000000(Rial) | 64.5222 | 14.56811 | 61.4710 | 67.5735 | 0.855 |
| | Upper10000000(Rial) | 63.4706 | 17.09537 | 60.1127 | 66.8284 | |
| | Total | 64.0959 | 15.95392 | 61.9711 | 66.2207 | |
| mental | Under 6000000(Rial) | 17.7931 | 6.61373 | 15.2774 | 20.3088 | |
| | 6000000-10000000(Rial) | 18.7216 | 6.70159 | 17.3710 | 20.0723 | 0.156 |
| | Upper10000000(Rial) | 16.9906 | 5.96417 | 15.8419 | 18.1392 | |
| | Total | 17.8147 | 6.38689 | 16.9885 | 18.6408 | |

| | | | | 95% Confidence Interval for Mean | | |
|---|---|---|---|---|---|---|
| **Health** | | **Mean** | **Std. Deviation** | **Lower Bound** | **Upper Bound** | **P value** |
| social | Under 6000000(Rial) | 87.0345 | 22.43321 | 78.5013 | 95.5676 | 0.248 |
| | 6000000-10000000(Rial) | 90.5567 | 20.89157 | 86.3461 | 94.7673 | |
| | Upper10000000(Rial) | 94.7143 | 27.97035 | 89.3013 | 100.1272 | |
| | Total | 92.0043 | 24.58747 | 88.8169 | 95.1918 | |

**Table 4. The comparison of physical, mental and social health in relation with the occupation.**

| **Health** | | | | | 95% Confidence Interval for Mean | | **P value** |
|---|---|---|---|---|---|---|---|
| | **Job** | **Mean** | **Std. Deviation** | **Mean Difference** | **Lower Bound** | **Upper Bound** | |
| Physical | Unemployed | 63.2452 | 16.76938 | -1.12470 | -5.62255 | 3.37315 | 0.623 |
| | Employed | 64.3699 | 14.49570 | -1.12470 | -5.40258 | 3.15318 | |
| Mental | Unemployed | 18.6205 | 6.49806 | 2.43382 | .69491 | 4.17272 | 0.006 |
| | Employed | 16.1867 | 5.98804 | 2.43382 | .74313 | 4.12450 | |
| Social | Unemployed | 89.3273 | 21.01108 | -8.79273 | -15.23757 | -2.34789 | 0.008 |
| | Employed | 98.1200 | 28.22303 | -8.79273 | -16.01703 | -1.56842 | |

**Table 5. The comparison of physical, mental and social health in relation with the females' education.**

| | | | | 95% Confidence Interval for Mean | | |
|---|---|---|---|---|---|---|
| **Health** | | **Mean** | **Std. Deviation** | **Lower Bound** | **Upper Bound** | **Maximum p value** |
| Physical | Primary school | 60.2308 | 14.75316 | 55.4483 | 65.0132 | 0.021 |
| | High school | 61.3974 | 15.90911 | 57.8105 | 64.9844 | |
| | Diploma | 66.6160 | 15.92056 | 63.7975 | 69.4345 | |
| | Academic | 63.9050 | 15.92576 | 61.8883 | 65.9216 | |
| Mental | Primary school | 18.8095 | 6.42874 | 16.8062 | 20.8129 | 0.153 |
| | High school | 18.4878 | 5.50251 | 17.2788 | 19.6968 | |
| | Diploma | 17.0687 | 6.76665 | 15.8991 | 18.2383 | |
| | Academic | 17.8118 | 6.35280 | 17.0283 | 18.5952 | |
| Social | Primary school | 85.2927 | 16.86008 | 79.9710 | 90.6144 | 0.016<br>168.00 |
| | High school | 90.1707 | 20.17198 | 85.7385 | 94.6030 | |
| | Diploma | 96.5954 | 27.48000 | 91.8454 | 101.3454 | |
| | Academic | 92.6969 | 24.12596 | 89.7156 | 95.6781 | |

**Table 6. The relationship between social support and physical, mental and social health.**

| **Health** | **r** | ***P value** |
|---|---|---|
| Physical | .207 | .000 |
| Mental | -.316 | .000 |
| Social | .340 | .000 |

relation between education and physical, mental, and social health. The relation between education and health has not yet proved in many studies and it is a controversial issue in researches but many studies have suggested that education and racial differences, such as being an African-American female, may be important in reducing life-expectancy and mortality [35, 36]. The result of a study showed that health literacy has been more effective than education in screening for females' cancers and thus preventing cervical cancer [37]. Another study showed that educated females are more likely to observe self-management behaviors of diabetes [38]. According to the other findings of the present study, there was a difference between occupation and mental and social health as mental and social health was higher in working females but there was no relation found between occupation and physical health. The literature on the relationship between mental health and occupation is available [39] but there are conflicting studies on the relationship between gender and mental health; some revealed that unemployed females suffer from mental diseases as unemployed men [40, 41]. While some studies showed that unemployed men are more stressed [39, 42]. Because of different roles that females play in life, they are less likely to think about economic stress while having a job, for economic reasons are particularly important for males, so the stress of an economic problem caused by unemployment can make them vulnerable to psychological problems [42]. Studies showed that

there is a positive relationship between occupation and self-care behaviors in females and as the duration of employment lasts longer, such behaviors last longer too [43, 44]. The present study indicated that there was no significant difference between income and physical, mental, and social health. One reason can be this fact that only 12.5% (29 people) had low income, among whom 18 females were older than 25 years old; this matter can be attributed to the low sample size. Moreover, other studies on the relationship between income and health revealed that income, by itself, without regarding the social class and education cannot influence health behaviors [45]. A study conducted in Japan showed the influence of education and income on females, but no influence on males [46]. On another variable examined in the present study, i.e. the relationship between social support and mental, physical and social health, the findings showed a direct and positive relationship between social support and physical health in females. Studies showed that social support plays an important role in the health of societies [31, 47]. Social support reduces the adverse effects of chronic diseases such as coronary heart disease and helps patients to adapt to the illness [48, 49]. Women's health studies also showed that the females who suffered from chronic illnesses such as breast cancer and were supported by friends and relatives had improved coping behaviors [50, 51]. Social support is effective in extending individual's life span. Screening and preventing behaviors of females have also been found to be influenced by social support [47]. The present study showed a significant negative relationship between females' social support and mental health. The literature proved that people with high social support and fewer interpersonal struggles are more likely to withstand stressful life occurrences and have fewer symptoms of depression or psychological distress [52]. The mechanisms suggested for the effects of social support on mental and physical health include this fact that people with social support have more health behaviors such as exercising, avoiding smoking, and better nutritional control, resulting in stress reduction and subsequently stress reduction will lead to more health behaviors; so that, it can be considered as a mutual relationship [53]. Moreover, the biological studies showed that social support increases the secretion of oxytocin, an anti-stress hormone that reduces the secretion of cortisol and increases the activities of the parasympathetic system, all resulting in reduced blood pressure [52, 54]. In a cohort study conducted in Washington, it was indicated that there is a significant positive relationship between social support and females' quality of life [55]. Quality of life is a physical, mental and social category that can be effective in all aspects of life [56]. The present study showed that there is a positive relationship between social support and females' social health. Social health refers to a person's ability to interact, and form appropriate relationships with individuals including family members, friends, and community. Communicating with others will provide individuals with a valuable psychological sense and will help them to serve their community better [47, 57]. The relationship between social isolation and health was expressed by Durkheim, the sociologist. In particular, the impact of social relationships and mental health including reduced depression was shown to be significant in the studies [58, 59]. One of the restrictions of the present study was non-inclusion of very poor and vulnerable women in the project. This study examined only the relationships between the variables and the causal relationship was not included due to the limitations of cross-sectional studies. In addition, the study did not include questionnaires measuring stress and depression in relation to psychological variables; so, it is suggested to conduct studies with a larger statistical population on women's health.

## CONCLUSION

Social variables are complex issues that are important to be considered in health, especially women who may be affected more due to their physiology and different social roles.

## ETHICS APPROVAL AND CONSENT TO PARTICIPATE

This study was approved by the ethical committee of Arak University of Medical Sciences, Iran (93-163-2).

## HUMAN AND ANIMAL RIGHTS

Not applicable.

## CONSENT FOR PUBLICATION

Informed consent was obtained from all the participants.

## AVAILABILITY OF DATA AND MATERIALS

The datasets generated and/or analyzed during the current study are not publicly available due to the moral rules of Arak university of medical sciences but are available from the corresponding author on reasonable request.

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## CONFLICT OF INTEREST

The author declares no conflict of interest, financial or otherwise.

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