

## Migrant seasonal farmworkers: Health related quality of life and the factors that affect it

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### Abstract

**Aim:** This study determined the level of health-related quality of life (HRQoL) of migrant seasonal farmworkers and related factors and compared the levels of the HRQoL of migrant seasonal farmworkers (MSF), seasonal farmworkers (SF) and non-farmworkers (NF). **Method:** A two staged study was conducted. In the first step we determined the HRQoL scores of MSF and the related factors in the agricultural fields. In the second step, comparisons were made between the HRQoL scores of MSF and SF and NF. There were 100 participants in each group. In order to collect data, a socio-demographic questionnaire, General Health Questionnaire and WHOQOL BREF TR quality of life scale were used. **Results:** The socio-demographic attributes of MSF were as follows: 58.0% were female, 72% were married, 60.0% were uneducated, and 90.0% had income below the minimum wage. **Conclusion:** MSF scored lower than both other groups on HRQL for physical, psychological and national environmental domains. A life without basic comforts and challenging working conditions with physical and psychological problems negatively affects the quality of life of migrant seasonal farmworkers.

**Key words:** Health related quality of life, migrant seasonal farmworker, WHOQOL Bref Tr

## Göçebe mevsimlik tarım işçileri: Sağlıkla ilişkili yaşam kalitesi ve etkileyen faktörler

### Özet

**Amaç:** Araştırmada, birinci aşamada göçebe mevsimlik tarım işçilerinde sağlıkla ilişkili yaşam kalitesi düzeyini ve etkileyen faktörleri belirlemek, ikinci aşamada göçebe mevsimlik tarım işçileri, mevsimlik tarım işçileri ve tarım işçisi olmayanların sağlıkla ilişkili yaşam kalitesi düzeylerini karşılaştırmak amaçlandı. **Yöntem:** İki aşamalı bir çalışma yürütülmüştür. İlk aşamada üç grup işçinin MSF için yaşam kalitesi skorları ve ilişkili faktörler belirlenmiştir. İkinci aşamada ise üç grup işçinin sağlıkla ilişkili yaşam kalitesi düzeyleri karşılaştırılmıştır. Her gruba 100 katılımcı alındı. Veri toplamak için yapılandırılmış bir anket, Genel Sağlık Anketi, WHOQOL

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BREF Tr yaşam kalitesi ölçeği kullanılmıştır. **Bulgular:** Göçebe mevsimlik tarım işçilerinin sosyodemografik özellikleri şöyledi; %58.0'ı kadın, %72.0'ı evli, %60.0'ı eğitimsiz, %90.0'ının geliri asgari ücretin altındaydı. **Sonuç:** Göçebe mevsimlik tarım işçilerinde fiziksel, psikolojik ve ulusal sorulu çevre bölümü skorları diğer iki gruptan da düşük bulundu. Temel yaşam konforu eksiklikleri ve zorlu çalışma koşulları ile fiziksel ve psikolojik problemler sağlıklı ilişkili yaşam kalitesini olumsuz etkilemektedir.

**Anahtar Kelimeler:** Sağlıkla ilişkili yaşam kalitesi, göçebe mevsimlik tarım işçileri, Whoqol Bref Tr

## **Introduction**

Due to the growing concentration of the economies of developing countries in agriculture and agricultural industries, it is now accepted that the agricultural sector is not only significant in terms of employment but also for the economy as a whole. Globally, there are approximately 450 million agricultural workers, 60% of whom live below the poverty line; 80% do not have social security; and 70% work in the field with their children.<sup>1</sup> In Turkey, one of the cities where migrant seasonal farm work is most concentrated is Sanliurfa.<sup>2</sup>

Migrant seasonal farm work is among the most challenging ways to farm. Due to the unfavorable living conditions (unsanitary shelters, lack of clean drinking water, accumulated garbage in the living space, unsanitary toilets, insufficient nutrition, etc.), the risks posed by this type of work (pesticides, dust, excessive? sunlight, insufficient nutrition, etc.), and health problems (accidents and injuries, insect bites, skin reactions, back pain, sunstrokes, etc.) as well as the isolation from basic services to which all individuals are entitled (health, education and social services), migrant seasonal farm workers form a vulnerable group.<sup>3-5</sup>

Other factors limiting the access of migrant seasonal farm workers (MSF) to health services are their mobility and migrant lifestyles. The mobility of MSF makes it difficult to provide the kinds of

treatments that require continuity (e.g., cancer scans) and that span over a long time (e.g., tuberculosis or diabetes). Furthermore, many farm workers prefer postponing healthcare until they return home.<sup>6</sup> In Turkey, migrant seasonal farm worker families live at their permanent address for an average period of four months, which complicates the process of getting family members into the medical records? Record, as well as impeding their access to preventive medicine, early diagnosis and treatment.<sup>7</sup> Today in explaining the wellbeing of individuals, the HRQoL is used to shed light on the subject. The HRQoL is defined as the individual's everyday response to the physiological, psychological and social impacts of the problems affecting personal satisfactions under certain living conditions. For this reason, it gains significance to identify MSF's health status through the lens of HRQoL, which also considers their living and working conditions.<sup>8</sup>

The aims of the study were to:  
1. Determine the quality of life scores of migrant seasonal farmworkers and the related factors.  
2. Make comparisons between the HRQoL scores of migrant seasonal farmworkers (MSF), seasonal farmworkers (SF) and non-farmworkers (NF).

## **Methods**

The data were collected in Şanlıurfa from 1 September to 23 October 2010. A two

staged study was conducted. In the first step we determined the HRQoL scores of MSF and the related factors in the agricultural fields. In the second step, comparisons were made between the HRQoL scores of MSF and SF and NF.

#### *Study area*

Şanlıurfa is a city in Turkey's Southern Anatolia Region. In a study conducted by the State Planning Organization, it ranked 73<sup>th</sup> of 81 cities in terms of socioeconomic development.<sup>9</sup>

#### *Study population*

It is estimated that MSFs comprise 25% of the population of the Şanlıurfa city center population. All of the MSFs leave Şanlıurfa in March to move around in 23 different provinces until November. The families then even work in the fields of Şanlıurfa upon returning.<sup>2</sup> It is not possible to determine the population working in the field due to migrant working life.

#### *Definitions*

The term "migrant seasonal farmworker" means an individual who is employed in agricultural employment of a seasonal or other temporary nature, and who is required to be absent overnight from his permanent place of residence.

The term "seasonal farmworker" means an individual who is employed in agricultural employment of a seasonal or other temporary nature and is not required to be absent overnight from his permanent place of residence. They do not migrate seasonally.

Non-agricultural workers; unskilled workers, blue-collar workers, the marginals (hawkers etc.) were in this group.

In order to measure the effect of cultural differences on the quality of life, the variable "language spoken at home" was used. This language is the language or languages preferred most frequently by the entire family to communicate with each

other. Since there was a preference for more than one language, the three variables of "speaking Kurdish at home," "speaking Arabic at home," and "speaking Turkish at home" were used.

"Speaking Turkish" was used as a separate variable since it has a direct impact on personal communication and learning. Turkish is the official language in Turkey.

Income levels were taken into account based on the net monthly minimum wage for Turkish citizens over the age of 16, which was USD 311 in 2010. The minimum wage is the lowest rate paid to employees as officially dictated.

Sickness status denotes whether the participant has a diagnosed acute or chronic disease at the time of the study.

#### *Sample size calculation*

The social domain scores for healthy individuals were used in order to calculate sample size. In order to compare the quality of life scores of the three groups, the following values were used: Power =0.80, alpha=0.05, standard error of group means=3.77, standard deviation=18.9<sup>10</sup>, effect size=0.19 and for k=3, each group was given 82 people. This number was rounded up to 100 for each group. A total of 300 participants were recruited for the study. The sample size was determined using Power Analysis and Sample Size (PASS) software 2005 [NCSS: Kaysville, Utah USA].

#### *Sampling*

Adults above the age of 25 participated in the study.

MSFs were chosen from the fields close to the Şanlıurfa city center where they were still actively working.

Nearly 450 square kilometers of an agricultural area was chosen as the study area. Different routes within this area were identified according to the area's road conditions to observe the whole study area. All regions were observed using all routes and people encountered were included in the study. However, this method did, not

reach enough people in the first visit by using different routes. Therefore, new comers to the area were identified with each day of observation. This practice continued until the desired number was reached.

After the MSF group was completed, members of the other groups were matching gender, age and educational level.

Non-farmworkers (NF) were chosen from the residential areas in the city center where the MSF live.

Seasonal farmworkers (SF) were chosen from the agricultural fields where the MSF work.

#### *Data collection tools*

The data for the study were collected using a structured questionnaire constructed by the research team with the socio-demographic information from the World Health Organization Quality of Life Measures, Brief Form, Turkish Version (WHOQOL-BREF TR) and the General Health Questionnaire (GHQ). The forms were filled out in personal interviews by the same researcher. Communication with those who do not speak Turkish was provided by a neighbor or family member elected by the participant. This is the most important limitation of the study.

This project was carried out according to the Helsinki declaration principle and the Ethics Committee of Harran University approval was obtained (23/09/2010, No: 04).

WHOQOL BREF TR: The HRQoL of the participants was measured using this scale. The WHOQOL-BREF has 26 questions, two of which are general questions.

One of the two general questions yields the health score as a whole and the other one yields the QoL score as a whole. The scores for domains are evaluated as physical health, Psychological health, Social relationships and Environmental categories. The highest internal consistency was 0.83 and the lowest was 0.53. In the physical health domain, there were questions about the activities of daily living, dependence on drugs and medical aids, energy and fatigue,

pain due to movements and discomfort, sleep and rest, and work capacity. The psychological domain consisted of questions about negative and positive feelings, self-esteem, bodily image and appearance, personal beliefs, and ability to concentration. The social relationships domain consisted of questions about personal relationships, social support and sexual activity. The environmental domain consisted of questions about the home environment, physical safety and security, financial resources, the accessibility and quality of health and social care, leisure activities and physical environment and transport. The domain scores were calculated separately as between 4 and 20. In Turkish version, there is also 27<sup>th</sup> national question that is available to calculate the national environmental domain. This national environmental domain is used as environmental domain.<sup>10</sup>

General Health Questionnaire: This was utilized to survey the psychological status of the adults. The questionnaire was tested for validity and reliability. The GHQ does not lead to a diagnosis. However, it provides a general measurement of constant stress, sense of worthlessness, suicidal thoughts and lack of morale. The original questionnaire has 60 questions; however, the short form with 12 questions (GHQ 12) was used in order to save time. Each question examines the symptoms experienced within the past few weeks and has four options. GHQ's internal consistency is 0.78, sensitivity is 0.73, and specificity is 0.84. GHQ12 scores above 2 were considered risky ones.<sup>11</sup>

#### *Dependent variables*

HRQoL physical, psychological, social and the national environmental domains are dependent variables.

HRQoL domain scores were transposed into categorical data as high and low HRQoL based on the median score

#### *Independent variables*

Categorical variables were gender, educational level, marital status, disease status, income level, GHQ score, speaking

Turkish, speaking Turkish at home, speaking Kurdish at home, and speaking Arabic at home. The GHQ score was used as categorical variable in univariate analyses. A GHQ12 score above 2 was considered a risky ones.

Continuous variables were age, time spent in the field, and the number of people in the household.

*Statistical Analysis*

In the univariate analysis of the data, the chi square test, the Mann Whitney U test and the Kruskal Wallis were used.

The Bonferroni corrected Mann-Whitney U test was used to find significantly different groups that were found to be significantly difference by the Kruskal Wallis Test. A logistic regression model was formed with the factors that show a significant statistical difference in a univariate analyses for each HRQoL sub domain. In the physical sub domain only, the variable “speaking Turkish” caused disharmony and thus was excluded from the logistic regression model.

The statistical analyses of this study were made using the “Statistical Package for Social Sciences” 11.5 (SPSS Inc., Chicago) package software.

**Results**

As far as the socio-demographic characteristics of the MSF were concerned, 58.0% were female, 72.0% were married. 60.0% were uneducated (23.8% for males, 86.2% for females), 47.0% had a self-reported acute or chronic disease and 74.0% had a GHQ score of 2 or higher. The mean age was 34.7±9.8 years and mean number of people living in the household was 8.0±3.3. 90.0% of the MSF’s earned below the minimum wage (311 USD), the time they had worked in the field was 9.4±8.9 months during the year and mean GHQ score was 4.8±3.1 (Table 1).

12.0% of the MSFs could not speak Turkish. All of those who spoke no Turkish were female (Table 1). 30.0% were speaking Turkish at home, 58.0% were speaking Arabic at home, and 42.0% were speaking Kurdish at home was Table 1.

Table 1. Socio-Demographic characteristics of the migrant seasonal farmworkers

Variables	Groups	n	%
Gender	Male	42	42.0
	Female	58	58.0
Educational Level	Uneducated	60	60.0
	Primary School	40	40.0
Marital Status	Single	21	21.0
	Married	72	72.0
	Divorced/ Widowed	7	7.0
Self Reported Sickness Status	Yes	47	47.0
	No	53	53.0
Speaking Turkish	No	12	12.0
	Yes	88	88.0
Language spoken at home*	Turkish	30	30.0
	Kurdish	42	42.0
	Arabic	58	58.0
Monthly Income	Above Minimum Wage	10	10.0
	Below Minimum Wage	90	90.0
GHQ Score	≤1	26	26.0
	≥2	74	74.0

\*Indicates that some spoke two languages at home.

Statistically significant differences were detected between the high and low physical scores in terms of gender, educational level, sickness status, GHQ status and age (p<0.05). However, the effect of marital status, speaking Turkish, speaking Turkish at home, speaking Kurdish at home, speaking Arabic at home, monthly income, time spent at the field and the number of people living in the household on the physical domain HRQoL was not shown.

Statistically significant differences were detected between the high and low psychological domain scores concerning educational level, speaking Turkish, sickness status and GHQ scores (p<0.05). However, no effect was shown of gender, marital status, speaking Turkish at home,

speaking Kurdish at home, speaking Arabic at home, monthly income, time spent at the field and the number of people living in the

household on the psychological domain HRQoL.

Table 2. Logistic Regression Analysis Results

Variable	Regression Factor	Standard Error	p	Odds Ratio	95% CI
<b>Physical Domain Model</b>					
Sickness status (Sick)	2.8	0.6	<b>0.00</b>	<b>16.5</b>	4.6-59.2
GHQ score ( $\geq 2$ )	1.3	0.6	<b>0.04</b>	<b>3.8</b>	1.02-14.4
Gender (Female)	1.1	0.7	0.13	3.0	0.7-13.3
Educational level (illiterate)	0.6	0.6	0.33	1.9	0.5-7.5
Age	0.05	0.03	0.09	1.0	0.9-1.1
<b>Psychological Domain Model</b>					
Sickness status (Sick)	1.3	0.5	<b>0.00</b>	<b>4.0</b>	1.5-10.9
GHQ score ( $\geq 2$ )	1.6	0.5	<b>0.00</b>	<b>5.0</b>	1.6-15.5
Educational level (illiterate)	0.6	0.5	0.17	2.0	0.7-5.4
Speaking Turkish (does not)	2.1	1.1	0.06	4.0	1.5-10.9
<b>Social Domain Model</b>					
GHQ score ( $\geq 2$ )	1.1	0.5	<b>0.03</b>	<b>3.1</b>	1.07-9.0
Time spent in the field	0.1	0.03	<b>0.00</b>	<b>1.1</b>	1.04-1.1
Not Speaking Turkish	0.6	0.6	0.32	1.9	0.5-7.7
Age	0.02	0.02	0.20	1.0	0.9-1.07
<b>The National Environmental Domain Model</b>					
Sickness status (Sick)	2.1	0.6	<b>0.00</b>	<b>8.7</b>	2.6-28.6
GHQ score ( $\geq 2$ )	1.5	0.6	<b>0.00</b>	<b>4.9</b>	1.4-16.2
Gender (Female)	0.3	0.6	0.57	1.4	0.4-5.1
Educational level (illiterate)	1.03	0.6	0.11	2.8	0.7-10.2
Speaking Kurdish at home	1.3	0.5	<b>0.01</b>	<b>3.9</b>	1.3-11.9

Statistically significant differences were detected between the high and low social domain scores in terms of speaking Turkish, age, time spent at the field and GHQ scores ( $p < 0.05$ ). However, no effect was shown of marital status, gender, sickness status, speaking Turkish at home, speaking Kurdish at home, and speaking Arabic at home, monthly income and the number of people living in the household on the social domain HRQoL.

Statistically significant differences were detected between the high and low national environmental domain scores relating to gender, educational level, sickness status, GHQ scores and speaking Kurdish at home ( $p < 0.05$ ). However, no effect was shown of marital status, speaking Turkish, age, speaking Turkish at home, speaking Arabic at home, monthly income, number of people living in the household

and the time spent at the field on the national environmental domain HRQoL.

Table 2 shows the results of the logistic regression model according to the HRQoL sub domains. Sickness affects the HRQoL physical domain by a factor of 16.5; a GHQ score of  $\geq 2$  affects it by a factor of 3.8.

Sickness affects the HRQoL psychological domain by a factor of 4.0; a GHQ score of  $\geq 2$  affects it by a factor of 5.0.

One unit of increase in the time spent at the field affects the HRQoL social domain by a factor of 1.11; a GHQ score of  $\geq 2$  affects it by a factor of 3.1.

Sickness affects the HRQoL national environmental domain by a factor of 8.7; a GHQ score of  $\geq 2$  affects it by a factor of 3.9.

The MSF, SF and NF were compared according to the main sociodemographic characteristics and for the quality of life scores. No statistical differences were detected between the three groups in terms of gender, age and educational level ( $p < 0.05$ ). The MSFs scored lower than both other groups on HRQL for the physical, psychological, social and the national environmental domains investigated (Table 3).

Table 3. HRQoL domain scores of the groups

Domains	MSF (n=100 )	SF (n=100 )	NF (n=100 )	$\chi^2^*$	P
	Median (min-max)	Median(min-max)	Median(min-max)		
Physical	13.7 (6.2-20.0)**	14.8(5.1-20.0)	14.8(6.8-20.0)	6.3	0.04
Psychological	11.3(5.3-20.0)**	12.6(6.0-18.6)	12.6(6.6-20.0)	8.7	0.01
Social	13.3(4.0-20.0)	13.3(4.0-20.0)	14.6(4.0-20.0)**	11.3	0.01
National Environmental	10.2(5.3-6.4)**	12.4(6.6-17.7)**	11.5(5.7-16.0)**	33.0	<0.001

\* Kruskal-Wallis Test were done, \*\*The group that makes a difference

## Discussion

In the present study, 58.0% of the MSF participants were women. In Turkey, 47.9% of the population are women working in agriculture.<sup>12</sup> In the United States of America, the National Agriculture Workers Database results show that women workers are the majority(56.7%).<sup>13</sup> These results point to the fact that a significant part of female labor is employed in agriculture. 60.0% of MSFs have never attended school (86.2% of women, 23.8% of men). This result was found to be very high in comparison to the 6.9% of illiterate people as stated in the Turkstat 2010 national data.<sup>14</sup>

This undesirable result of the educational status is also shown in a study by Koruk, who reported that 92.3% of women and 32.1% of men were uneducated.<sup>2</sup> The children of farm worker families do not or cannot continue schooling. The unfavorable conditions that begin during childhood, along with the influence of gender, result in women ending up less educated.

In some studies conducted in Turkey and the USA, the MSFs were young adults aged between 27 to 36.<sup>15-17</sup> In this study, the average age of MSF was 35.

The mean number of people living in the MSF households in the study was 8. The crowded households are the result of the

children that live with the families in the farm field. It is expected that where literacy is so low, fertility is high.<sup>15</sup> A study conducted in Oregon states that the families are crowded and generally composed of adults.<sup>18</sup> The fact that the household numbers are high means less financial and other resources per family member and affects living conditions, especially health. In the present study, 87% of MSFs were married and the majority of them take their families with them to the agricultural fields. In the studies conducted in the USA, 52-78% of the MSFs were married and 63-66% moved around with their children. It is estimated that every year, 500,000 children migrate with their families.<sup>6,16,19</sup> This causes negative outcomes for the children but is important in terms of continued family support. According to a study conducted in the USA, risky sexual activity and depression rates are high among solitary male farmworkers who live without family support.<sup>20</sup>

Farmworkers in this study group spend a mean period of 9.4 months in the farming region, longer than the MSFs in the United States, who spend a mean of 8.6 months.<sup>18</sup> Some MSFs stated that if they find work in the farming region travelled, especially in greenhouses, they do not return to their permanent addresses even in the winter. The reason for this might be the fact that farmworkers find it very hard to find work in other sectors, as stated in another study.<sup>18</sup>

In the present study, about half of the MSFs had a self reported chronic or acute disease. This might be explained by many reasons such as insufficient and imbalanced diet, unhealthy living quarters, lack of education, poverty, lack of responsibility for self-care and obstacles to transportation. In the USA, farmworkers are not knowledgeable about the health programs they can benefit from.<sup>21</sup>

74% of the MSFs who participated in the study had a GHQ score of  $\geq 2$ . Other research studies have shown that the living and working conditions of farmworkers lead to stress and cause anxiety levels to

rising up to 30% and depression up to 40%.<sup>22,23</sup>

According to the hunger and poverty line research by Confederation of Turkish Trade Union's (Turk-Is), the majority of migrant farmworkers live below the hunger and poverty line.<sup>24</sup> The data of the National Institute For Occupational Safety and Health (NIOSH) show that in the US, the percentage farmworkers living under the poverty line accounted for 50% of the workers in 1990, while in 1995, this percentage rose up to 61%. The average annual income per family is between 7.500 and 9.999 USD.<sup>25</sup> Similar to the results of this study, poverty is a huge recurring problem for migrant farmworkers in many different countries.

Speaking a language other than the official language is regarded as an obstacle to healthcare access. Due to the ethnic mosaic of South eastern Anatolia, different spoken languages such as Kurdish and Arabic are expected. Even though MSFs speak languages other than Turkish, they are Turkish Citizens. It has been reported that in different countries worldwide it differences in spoken languages of MSFs were observed.<sup>4,26</sup>

This study reveals that the occurrence of any disease negatively affects the physical domain score 16.5 fold, the psychological domain score by 4.0 fold and the national environmental domain score by 8.7 fold. Similarly, in a study conducted in Korea, the presence of a disease lowers HRQoL.<sup>27</sup> A GHQ score of  $\geq 2$  is the only variable that affects all the domains of HRQoL in MSFs. Other studies support the findings of this study that psychological problems are high in MSFs. Environmental factors (such as social isolation, exclusion, heavy working conditions) are important in boosting the tendency for farmworkers to suffer from psychological disorders. Studies have shown that stress, weak family support and lack of social support increase depression and anxiety in farmworkers. Especially stressful working conditions are found to be related with high anxiety and depression.<sup>6,28-30</sup>

An increase in the time spent at the field negatively affects the social domain

score by 1.1 times. Spending a long time in the field negatively affects the MSF's relationships with family members, neighbors, colleagues and individuals in other communities as well as their sexual life.

The score for this domain measures factors such as home environment, physical safety and security, financial resources, access to healthcare, leisure activities physical environment and transportation. It is stated that speaking a language other than the official language causes obstacles for farmworkers in access to health care.<sup>4,26</sup> However, it is interesting that Kurdish speaking negatively affects the national environmental domain score, whereas the effect of Arabic speaking is not apparent and needs further study.

Migrant seasonal farm working, as a way of working and living, decreases the HRQoL of farmworkers. When all the groups participating in the study were taken into account, the MSF's average scores for physical, psychological, social and national environmental domains were found to be lower than both other groups. The HRQoL level of MSFs is lower than for SFs, with whom they work together, and also lower than the NFs, with whom they live together in the cities at their permanent addresses.

## **Conclusion**

Migrant seasonal farmworkers have extremely low educational levels. All resources must be mobilized in order to increase the education and schooling level especially of women and girls.

Migrant seasonal farmworkers are burdened with more health and psychological problems than seasonal farmworkers and non-farmworkers. Accessible basic healthcare must be extended that meets farmworkers' needs.

A life without basic comforts and with challenging working conditions negatively affects the quality of life of farmworkers. Existing legislation must be enforced in order to improve the living and

working conditions and new legislation must be issued where needed.

Measures for the improvement of healthcare must be taken by way of using cultural intermediaries in programs directed to farmworkers, in order to solve language-related communication problems.

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