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Research paper

Depression among migrant workers in Al-Qassim, Saudi Arabia

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ABSTRACT

Background: Mental disorders are common among migrant workers. There is no data on depression in Saudi Arabia among them; although, they are a third of the population.
Objective: To determine the prevalence of depression and to assess its relationship with duration of stay and living condition in a sample of migrant workers.
Methods: A cross-sectional survey of 400 migrant workers was conducted in Al-Qassim region of Saudi Arabia. Exposure and covariate factors were assessed with a standardized questionnaire, depression with the CES-D (Center for Epidemiological Studies on Depression) scale, and physical indices (e.g. weight, height, and blood pressure) with a general examination. Logistic regression was used to identify significant correlates of depression.
Results: Depression prevalence was 20%; it did not vary by duration of stay or living condition but by age, stress, and self-reported health. In the multivariate model, those who reported 'moderate' or 'high' levels of stress were 1.7 (95% CI: 0.9, 3.1) and 3.9 (95% CI: 1.7, 9.1) times more likely to have depression (reference ='low' level), respectively. Similarly, those who rated their health either 'good' or 'fair to very poor' were 3.4 (95% CI: 1.9, 6.1) and 4.8 (95% CI: 2.3, 10.1) times more likely to have depression (reference ='excellent/very good'), respectively.
Limitations: The data were collected from one company and pertained to only male participants, and the study design could not establish temporal sequence between the exposure and outcome variables.
Conclusion: Depression is considerably high in this population; a large-scale and nationally representative survey is needed to validate the findings.

1. Introduction

The Kingdom of Saudi Arabia (KSA) has been largely dependent on migrant labor since the oil boom – to the extent that one-third of its current population consists of migrant workers (World Population Review, 2016). Most of the workers come from the neighboring Arab countries of Egypt, Yemen, and Sudan, as well as from South Asia (i.e. India, Pakistan, Bangladesh, Nepal, and Sri Lanka), Philippines and Indonesia. A vast majority of workers are blue collar laborers and are engaged in a variety of sectors such as construction, agriculture, poultry and livestock, repair, or domestic (Kapiszewski, 2006).

Migrant workers, who by definition are individuals engaged in remunerated activity in a state where they are not a citizen, are generally at higher health risks than non-migrant workers. These risks are diverse and affect all aspects of health, from communicable to chronic diseases, from road traffic accidents to exposure to noxious substances, from psychological trauma to unsafe sexual practices (Alswaidi et al., 2013). Migrant workers usually live in crowded substandard conditions, eat all types of food without any health consideration, get inadequate sleep, and often lack access to healthcare. They are less likely to utilize the healthcare system compared to nationals, even when it is available to them (Al-Maskari et al., 2011). In broad terms, they typically return home in a worsened health condition than when they departed (Ullmann et al., 2011).

One notable health hazard of migration is the deterioration of mental health, which has been implicated to suicide and more serious diseases like schizophrenia. For example, death by hanging or suicide in KSA is more common among migrants than among

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the Saudi nationals (Al Madni et al., 2010). They are also more likely than the nationals to suffer from psychosis during hospital admissions (AbuMadini and Rahim, 2002).

Hardly any literature exists in KSA about common mental disorders such as anxiety and depression among migrants, although it is well-documented elsewhere in the world, e.g. Europe (Ünlü Ince et al., 2014), US (Grzywacz et al., 2011), and China (Li et al., 2014); the only data available are those from the neighboring gulf countries of United Arab Emirates and Bahrain (Al-Maskari et al., 2011; Sarwani et al., 2013). The prevalence of depression among migrants in these studies ranged from 13% to 25%, and was significantly correlated with their physical illness, low income, heavy workload, debt, and jobs in the construction industry (Al-Maskari et al., 2011; Sarwani et al., 2013).

There are reasons to believe that factors such as duration spent as a migrant or living condition could also be related to depression. Although these factors were not assessed in the middle-eastern studies, they were evaluated in Chinese (Zhong et al., 2015) and Mexican (Grzywacz et al., 2010) migrant workers as well as in Canadian immigrants (Zheng and Schimmele, 2005). In the former two studies, worse living conditions were associated with higher levels of depression. The extreme climate and the hot and dry weather in KSA add another dimension to difficult living conditions because many jobs in KSA are outdoors and because many workers come from countries with cooler temperatures, rain, and greenery. In the third study, the length of residence demonstrated a non-linear, inverted U-shaped relationship with depression, indicating that recent and very long-term immigrants had lower levels of depression. A potential explanation of this finding could be that migrants usually feel optimistic and hopeful about the economic prospect at the beginning of their migration; but after passing the initial period, they start to miss certain aspects of their home culture and have difficulty to adapt with their new culture. Loss of social status, family and social support in the new country, as well as fear and uncertainty of reuniting with family members in the home country add to their existing mental burden.

In this cross-sectional study, depression was assessed in a sample of migrant workers employed in the central region of KSA. Risk factors for depression were assessed, which included demography, lifestyle, self-reported health and diseases, and stress. The study hypotheses were that the depression prevalence would be higher among workers with a longer duration in KSA or poorer living conditions compared to workers with a shorter duration in KSA or relatively better living conditions.

2. Method

2.1. Sample

This cross-sectional study was conducted among 400 migrant workers in a selected company at Al-Qassim, Saudi Arabia; the company was a dominant company in its sector in the region, and it only employs men. The inclusion criteria included: 1) Non-Saudi, and 2) Working in KSA for at least 6 months. The study protocol was approved by the ethics committee at Sulaiman Al-Rajhi Colleges (SRC).

2.2. Sample size

The required sample size for this study was 384 men. The sample size (i.e. 400) was sufficient to survey a population of male migrant workers (around 200,000 in Al-Qassim region) with a 95% confidence and with a 5% margin of error.

2.3. Sampling strategy

The sample was collected with the help of the human resources department and the medical center of the selected company. The field data collection took place at the medical center. The medical center maintains a list of all employees with associated files that include their health and employment records. Each employee is required to complete an annual health check-up at the center. The research assistants went to the medical center weekly for eight weeks; they completed approximately 50 employee interviews per week. Each week, the participants were randomly selected from the list of employees who were scheduled for their annual check-up that week. The research assistants obtained informed consent from the employees and conducted the interview as well as the physical measurements at the time of the check-up.

2.4. Data collection

The research assistants were seven fifth-year medical students who conducted the fieldwork for this study. They received training in interview techniques and participated in mock-interviews before they started the fieldwork. The research assistants conducted face-to-face interviews with standardized questionnaires; each interview took around 30–40 min; the interview ended with a general physical examination.

2.5. Exposure

Duration of stay in KSA was ascertained in years and was categorized into quartiles as <2, 2–6, 7–15, and ≥ 16 years. Participants reported their living condition in KSA with three response options: good, average, or poor.

2.6. Covariates

The variables were as follows: age (20–30, 31–40, 41–50, ≥ 51 years), country of origin, education (primary school: ≤ 5 years, high-school: 6–10 years, college or university: ≥ 11 years), family residential status (not married, married but living without family, married and living with family), current smoking (yes, no), exercise (yes, no), monthly income (in quartile, ≤ 750, 751-1320, 1321-1900, ≥ 1901 Saudi riyals).

Participants were asked whether they were diagnosed with any of the following diseases: heart disease, high blood pressure, diabetes, or asthma, and if yes, for how long and whether they were taking medication for it.

Participants were asked to rate their stress level on a 10-point scale, where 1 meant 'no stress at all' and 10 meant 'extremely stressed'; they were categorized into having low (<2), moderate (2–5), or high (≥ 6) level of stress. Additionally, they were asked to rate their health during the past four weeks (general health question from the SF-8 (2001) was used), with six response options: excellent, very good, good, fair, poor, and very poor. The variable used in this analysis had three levels after merging very good with excellent, fair with poor and very poor (Ware, 2001).

Standard protocol was followed during the measurement of physical indices. Weight and height were measured in kilograms and in centimeters, respectively; participants wore light clothes and no shoes. Body mass index (BMI) was calculated in kg/m^2 and categorized as normal (<25), overweight (25–29.9), and obese (≥ 30). Waist circumference was measured in centimeters, between lowest rib and iliac crest, and was used to determine central obesity (no: <90, yes: ≥ 90 cm). Two readings of blood pressure were taken for each participant, five minutes apart, after he was seated in a quiet room; the average was calculated to determine his systolic and diastolic blood pressure (cut-off values were 140