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ORIGINAL ARTICLE

Mental health status among female sex workers in Tabriz, Iran

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Abstract

Female sex workers are a deprived part of Islamic communities. It is necessary for public health policy makers to have knowledge about their mental health status. This study aims to have an evaluation of mental health among female sex workers in Tabriz for the first time in northwest of Iran. In this cross-sectional study, 48 female sex workers who had accepted to be evaluated were included. Sociodemographic and general mental health statuses, using General Health Questionnaire (GHQ-28), were recorded. Those with GHQ-28 score more than 23/24 in the first session were thoroughly interviewed in a second session in order to find out their specific mental disorder, using Structured Clinical Interview for DSM-IV axis 1 and 2 Disorders (SCID 1 and 2). This study suggests that 62.5% of female sex workers suffer from a mental health problem which is in accordance with previous studies. Mood and anxiety disorder were two of the most common, and there were also records of personality disorders among participants of this survey. There were also high rates of addiction in female sex workers of this study. Based on findings of this study, high rates of mental disorders such as personality disorders, anxiety disorder, and mood disorder were detected among female sex workers in the northwest of Iran. Financial incentive was reported to be the primary motivation for choosing sex work as a source of income.

Keywords Sex workers · Mental health · Depression · Personality disorders

Introduction

Mental health means a state of well-being in which every individual understand his or her capabilities, is able to confront with daily life struggles, and can work productively to make a contribution to his or her community (Panigrahi et al. 2014). Rate of anxiety and depression is higher among women in comparison to general population (Rossler et al. 2010). Women with proper mental health state are commonly successful individuals in their personal

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life and may be a more competent caregiver of their children (Nurullah 2010).

Prostitution is a dilemma and a part of societal reality for many countries including Iran's. Engaging in promiscuous sexual relations, especially when it is for money, is called prostitution. In Iran and based on Islamic marriage laws, a female sex worker is defined as a woman who is in a sexual relationship with a man other than her partner, when there is a financial incentive involved. Female sex workers suffer from stigma in Iran's society as it is a common belief that these sex workers are living with adultery, ruining relationships, spreading venereal disease, and giving birth to illegitimate children. Also, prostitution is strongly forbidden by Islamic laws with certain extreme punishments. Therefore, these female sex workers conceal their real identity while interacting with their clients and are derived from society. Their constant move from one location to another makes their tracking very difficult. Combination of many of the abovementioned factors creates a barrier to perform a psychiatric study on female sex workers in Iran. Volunteers at non-governmental organization (NGO) counseling centers in Iran play a significant role in helping female sex workers with their daily struggles.

Sex workers are vulnerable population who are prone to many health conditions including medical diseases such as sexually transmitted diseases (STDs) and mental disorders such as depression. (Shen et al. 2016; Patel et al. 2015; Sagtani et al. 2013). It is suggested that coming from a low socioeconomic status and unfavorable family conditions make these vulnerable patients to be more susceptible to mental health disorders (Sagtani et al. 2014; Chavan 2015).

Per our review of medical literature, studies assessing the mental health of female sex workers are infrequent. The few available studies focus on manifestations of specific psychiatric disorders such as post-traumatic stress disorders (PTSD), depression, or drug use disorder at this population (Romans et al. 2001; Farley and Barkan 1998; Roxburgh et al. 2006; Hutton et al. 2004; Cusick et al. 2003; Burnette et al. 2008; El-Bassel et al. 2000; Surratt et al. 2005).

To our knowledge, there are a limited number of studies on different aspects of female sex workers' mental health in Iran. These studies have shown higher rates of anxiety disorders and impaired impulse control (Zareidoost et al. 2007), emotional instability, personality disorder, and drug use disorder among Iranian female sex workers. Additionally, risk factors such as family dynamic instability, drug addiction, criminal history, and poverty were higher in Iranian female sex works in comparison to general Iranian population (Ansari et al. 2011). Moreover, due to cultural and legal barriers in Iran and particularly in the City of Tabriz, information gathering and release for the topic of sex workers has often been extremely difficult. For the first time in northwest of Iran, our study conducted a psychiatric interview of local female sex workers while studied the association between their demographic data and its correlation to these participant's motivation of becoming a female sex worker and more importantly to their psychiatric diagnosis.

Method

Demographic data

From January 2016 to March 2016, the demographic data of 100 registered female sex workers in an NGO located in Tabriz City in the northwest of Iran was recorded. This sample was randomly selected based on alphabetical order from a list of more than 200 referees provided from an NGO's office. The informed consent process had two steps. The first part was the statement of agreement for using demographic data for the purpose of data analysis, and the second part was signing the actual informed consent document to be included in series of psychiatric interviews. Patients who agreed with their demographic data to be analyzed (without revealing their actual identity) were asked to sign informed consent voluntarily to participate in psychiatric interviewing. The standard procedure of signing an informed consent was followed. This study has been approved by the Ethics Committee of Tabriz University of Medical Sciences who oversaw the research as local Institutional Review Board (IRB). The Ethics committee has permitted incorporating the registered demographic data of these subjects.

The following demographic data was gathered: "age," "marital status" (lawfully married, not married and divorced), "education level" (literal, non-university degree, university degree), "number of their children" (having no child, one or two children, and more than two children), "having another job" (any salaried job other than prostitution), and finally, "addiction status."

Screening

From 100 initial participants, 48 participants signed the informed consent document and agreed to be interviewed in the study. The inclusion criteria for this study were the following: registered female sex workers in an NGO at City of Tabriz. Our study did not exclude any subject since this study was a pilot study at its own kind. The screening process started with utilizing General Health Questionnaire (GHQ). GHQ is a psychometric screening tool to identify common psychiatric conditions. A validated version of Persian GHQ-28 questionnaire was used at this study (Nazifi et al. 2014). Those individuals with GHQ-28 score of equal or more than 23 in the first screening session were interviewed in psychiatric interviewing session. At screening session, participants were also asked about their motivations of becoming a female sex worker with four answering options as follows: (1) interested

in having sexual encounter or engaging in sexual activity, (2) poverty and financial needs, (3) family deprivation and domestic conflicts with family members, and finally, (4) no specific reason.

Psychiatric interview

For the purpose of precise diagnosis, psychiatric interview was conducted through utilizing Structured Clinical Interview (SCID) for DSM-IV axis 1 and 2 Disorders. The Structured Clinical Interview for DSM-IV Axis I Disorders (SCID-I) is a semi-structured interview for making the major DSM-IV Axis I diagnoses, and SCID-II is a semi-structured interview for making DSM-IV Axis II: Personality Disorder diagnoses. A skilled psychiatrist, active in the field of women health and a senior psychiatry resident with experience in using SCID, conducted psychiatric interview sessions. Thirty female sex workers in this study had second session of interview based on SCID framework. Even though, at the time of our study, DSM-V was published and utilized as diagnostic and statistical manual, at our study, we utilized DSM-IV TR version of SCID. The rationale behind this decision was based on the fact that the validated Farsi version of SCID for DSM-V was not widely used for psychiatric interviews and evaluations in Iran.

Statistical analysis

In order to analyze and present our results, we used descriptive methods, percentile report, and graphs. Also, chi-square test and partial least squares discriminant analysis (PLS-DA) methods were used. Data were analyzed by State Software version 11 and SIMCA-P12 software.

Results

The demographic characteristics of 100 registered female sex workers are presented in Fig. 1. Age of participants ranged from 18 to 45 years with mean age of 30.9 years.

Forty-eight female sex workers signed the informed consent and agreed to be interviewed in the study. Based on their self-reported questionnaire, mean age for the first prostitution experience was 20.9 years. The number of work days per month was diverse as 25% (12 out of 48) of the participants were working most days every month and 45.9% (21 out of 48) of the participants worked less than 10 days per month. Although, 20.9% (10 out of 48) of women reported having another job or source of income, but 54.2% (26 out of 48) of the participants had monthly income from prostitution of up to 10 million Iranian Rials (In 2016, Central Bank of Iran had announced that the poverty threshold for a family of four was 2.7 million Iranian Rials). Participants (68.8% (33 out of 48)) had multiple sexual partners. Since prostitution is illegal and strictly forbidden in Iranian society, the process of attracting and obtaining clients is limited to streets. Due to lack of governmental oversight of sex work in Iran, sexual violence was thought to be a part of possible experiences that these participants might have experiences. Participants (56.25% (27 out of 48)) denied the history of sexual violence. Sex work characteristics of 48 of respondents are depicted in Table 1.

More than half of respondents (52%) in this study identified financial needs (poverty) as the main motivation for their integration into the sex industry (Fig. 2).

In this study, GHQ results are categorized in five domains (four subscales and a total score). The four subscales, each containing seven items, are as follows: somatic symptoms (items 1–7), anxiety/insomnia (items 8–14), social dysfunction (items 15–21), and severe depression (items 22–28). Based on our analysis, the mean total score of GHQ was 45.75. Thirty (62.5%) individuals had total GHQ score equal or greater than 23 which implies having a mental disorder. Detailed information on GHQ results is presented in Table 2.

Based on our findings from SCID-I interview, the most frequent mental disorders in our participants were mood disorders (53.5%, 16 respondents) and anxiety disorders (36.7%, 11 respondents). Also, according to personality analysis by SCID-II interview, 80% (24 out of 30) of participants had personality disorders. The prevalence of personality disorders (PD) among interviewees were as the following: borderline PD 23.3%, antisocial PD 13.3%, histrionic PD 13.3%, paranoid PD 10%, narcissistic PD 6.6%, and non-significant PD (NOS) 13.3%. SCID detailed findings are shown in Fig. 3.

This study suggests that 62.5% of female sex workers suffer from a mental health problem which is in accordance with

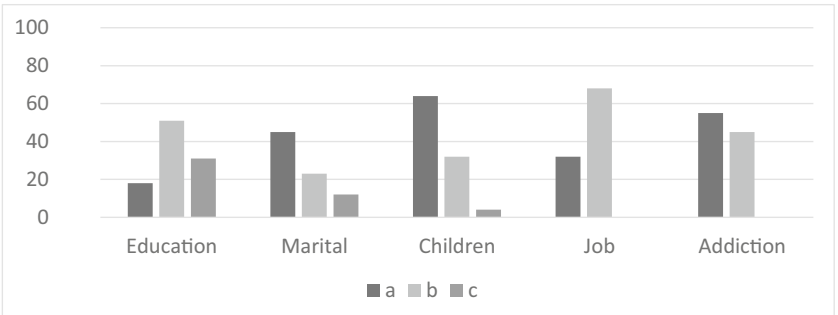

Fig. 1 Demographic characteristics (education: a—literal, b—no university degree, c—university degree; marital: a—married, b—not-married, c—divorced; a—no children, b—one or two, c—three or more; job: a—another job, b—no other job; addiction: a—yes b—no)

Table 1 Sex work characteristics including age at first sexual encounter, number of work days as sex worker per month, monthly income from sex work, having single or multiple sex partner, history of violence in sexual encounters, and type of sexual intercourse. M: million

	Mean (SD)	Number
First sex age	20.91(3.78)	48
Work days per month		
1–10 days	45.83%	22
11–20 days	29.17%	14
21–30 days	25.00%	12
Monthly income		
< 1 M Rials	4.17%	2
1–2 M Rials	33.33%	16
> 2 M Rials	54.17%	26
No income	8.33%	4
Sex partner		
Single	31.25%	15
Multi	68.75%	33
Violence in sex		
Yes	43.75%	21
No	56.25%	27
Type of sexual encounter		
Non penetrative	8.33%	4
Penetrative	91.61%	44

previous studies. In order to find out the association between demographic data and the frequency of psychiatric disorders, further analysis by Fischer's exact test was completed. Even though 56.25% (27 out of 48) of participants denied the history of sexual violence, there was a significant relationship between carrying personality disorder and engaging in violence during sexual intercourse ($p < 0.037$). Those married women with multiple sexual partners were often diagnosed with psychotic disorder. Anxiety disorder was more frequent among female sex workers with 1 million to 2 million Rials of monthly income and those who were married. There was no significant relationship between other variables. Detailed findings of Fischer's exact test are presented in Table 3.

Discussion

Sex work is stigmatized and strictly banned in the society of Iran. Laws with extreme punishments discourage any law abiding citizen from sex work, and the governmental oversight of this practice is commonly limited. Moreover, due to cultural and legal barriers, information gathering and release for the topic of sex workers have been often extremely difficult.

Previous studies in other countries had proposed high burden of mental disorders (Puri et al. 2017) such as major depressive dDisorder (Shen et al. 2016; Patel et al. 2016) among female sex workers. Iaisuklan MG and colleagues studied psychiatric disease prevalence by Mini International Neuropsychiatric Interview among 100 female sex workers in India. Major depressive episodes were reported in approximately 34% of respondents, and 9% of them were diagnosed with antisocial personality disorder (Iaisuklang and Ali 2017). Similar to these findings, mood and anxiety disorders were two of the most common diagnosed mental disorders among subjects of this study. The exact causality relationship among these disorders and being a sex worker is not determined at current study and needs comprehensive follow up studies.

In a survey to study prevalence and characteristics of abuse experience and depressive symptoms among intravenous drug-user female sex workers in Mexico, authors concluded that there are higher rates of depression and violence among female sex workers and suggested a need for a mental health and drug abuse services (Ulibarri et al. 2013). A cross-sectional study of female sex works in Sydney, Australia,

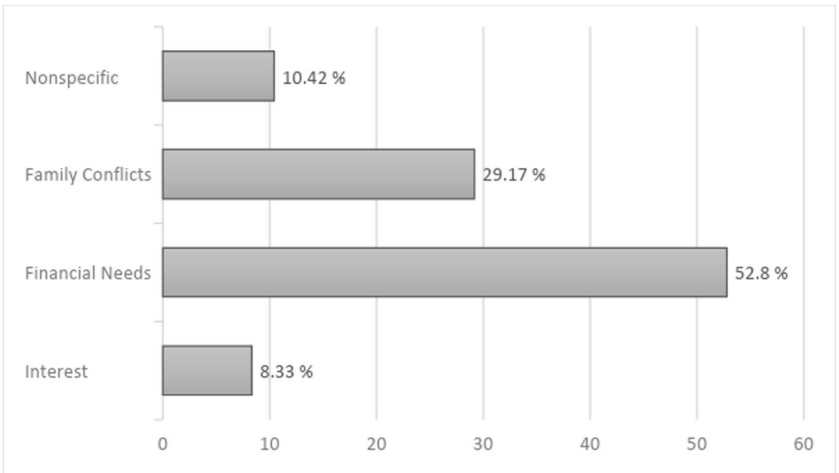

Fig. 2 Main motivation to become a sex worker

Table 2 GHQ results. Mean scores of 48 respondents in each subscale of GHQ-28 questionnaire

	Somatic symptoms	Anxiety/insomnia	Social dysfunction	Severe depression	Total score	Score > 23/24
Amount	48	48	48	48	48	30
Mean score	11.5416	11.3541	11.4166	11.4166	45.7500	67.20

suggested higher rates of trauma history and post-traumatic stress disorder (PTSD) among female sex workers and mentioned the lack of proper treatment strategy for this population (Roxburgh et al. 2006). Another cross-sectional study of female sex workers in Queensland, Australia, described the self-reported mental and physical health of female sex workers and concluded that higher rates of mental and physical disorders are among street-based female sex workers (Seib et al. 2009). Despite the fact that 43.75% of our subjects reported experiencing violence at their sexual encounter, PTSD was not commonly diagnosed. This needs to be further investigated.

One of the trials having a broad evaluation of mental health among female sex workers was published in 2006 by Rossler W. et al. The authors reported high rates of mental disorders among female sex workers and mentioned that work setting (such as violence rate, type of sex work) and nationality are factors that could influence mental health disorders (Rossler et al. 2010). We look forward to a follow up study to investigate and identify the possible factors impacting the mental health of local female sex workers.

Zareidoust E. et al. studied coping strategies among 30 female sex workers in Tehran, Iran, and compared their findings with a control group. They found higher rates of impaired impulse control and anxiety disorder among female sex workers (Zareidoost et al. 2007). In another Iranian cross-sectional study of 30 female sex workers, personality disorders and coping strategies were assessed by Structured Clinical Interview DSM-IV axis II disorders (SCID-II) and Billings Coping Style Questionnaire. Their findings showed a prevalence of 90% for personality disorders with higher rates of passive aggressive personality disorder among female sex workers (Ansari et al. 2011). In current study, approximately 80% of individuals with mental disorders were also diagnosed with personality disorders. This finding supports Ansari S's Ansari et al. (2011) study in estimating the prevalence of personality disorder at this population. The most common identified personality disorder at subjects of our study was borderline personality disorder (BPD). This finding supports higher rates of impaired impulse control found at Zareidoust E. et al. study. To discover more meaningful relationships and possible causality for these findings, a larger longitudinal study with higher power should be designed.

Carlson CE et al. performed a study to introduce predictors of depressive symptoms among 222 Mongolian female sex workers. Based on their findings, significant predictors of depressive symptoms were paying partner sexual violence, notorious stigma in community, lack of social support, and alcohol use (Carlson et al. 2017). At our study, the Fisher's exact test results were not generally significant. Among significant findings, our study suggested higher rates of anxiety disorders among married female sex workers. The causality is not clear as well; however, this might be due to feeling guilty of betraying the life partner or domestic conflicts.

Subjects (66.67%) in this study were struggling with substance use disorder. Added financial burden of drug use might have motivated patients in choosing sex work as their second job. A drug user, especially a female sex worker, might be more vulnerable to daily life challenges and may suffer from substance-related mental disorders. Therefore the community health providers play an important role in identifying and treating the substance use disorder and proper referral of more complicated cases to psychiatric services.

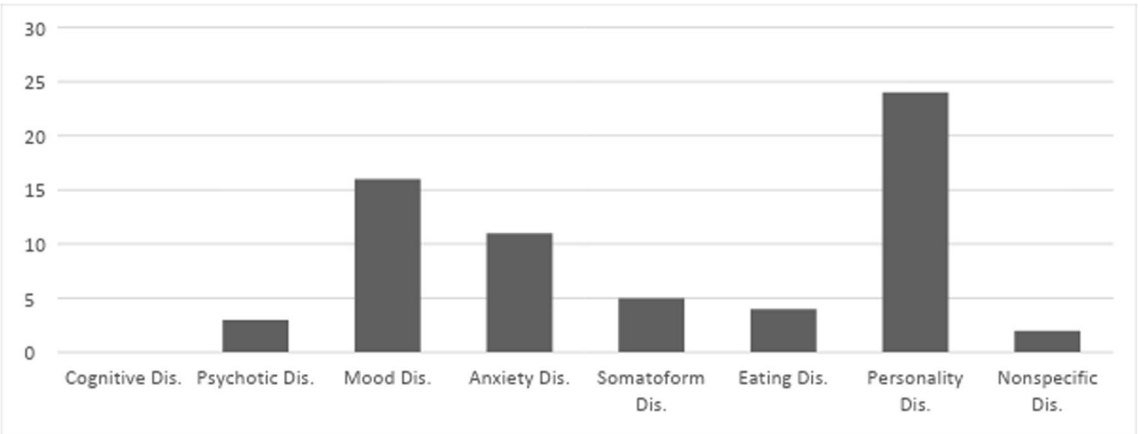

Fig. 3 SCID results (Dis disorder). Data gathered by an interview from 30 respondents with mental disorders

Table 3 Fischer's exact test. The relation between demographic data and SCID interview findings

	Mood disorder	Anxiety disorder	Psychotic disorder	Somatoform disorder	Personality disorder	Eating disorder	Sex type
Education	0.560	1.000	0.280	0.553	0.851	0.644	1.000
Marital	0.250	0.002	0.034	0.180	0.537	0.163	0.293
Children	0.442	0.108	0.251	1.000	0.652	0.584	0.261
Another job	1.000	0.641	0.501	0.553	0.293	0.557	0.248
Income	0.135	0.045	0.731	0.668	0.158	0.390	0.362
Violence	0.730	0.707	1.000	1.000	0.037	0.602	0.045
Reason	0.544	0.938	0.219	1.000	0.590	0.575	0.470
Sex partner	0.101	0.104	0.014	0.336	0.335	0.550	1.000

Based on self-reported questionnaires in this study, 79.18% of our subjects only had one job. Financial incentive was reported to be the main motivation for choosing sex work. Twenty-five percent of these subjects work more than two thirds of the month. Based on the findings of this study indicating that financial incentives were the main motivation for choosing sex work, our team may suggest that strengthening national economic policies by governments in lieu of reducing unemployment rates might benefit at individual, familial and societal level.

Our study had limitations. Considering the legal and cultural burden of the sex work in an Islamic society, one of the limitations of our study was its small sample size. Other limitation was the bureaucratic legal steps to be taken by authors of this study to obtain the permission to conduct the study and interview this particular population. Many female sex workers live the life of terror. The terrors of their identity were to be exposed, to be judged for their actions, to be persecuted for their illegal practice, and to be deprived from the society. These factors and many others, including their baseline mental state and their general mistrust towards clinicians, are discouraging the female sex workers to participate in psychiatric studies. At extreme cases, they even might avoid acute medical care. D Cohan et al. conducted an observational study of 783 sex workers in San Francisco in order to evaluate predictors of sexually transmitted infections. Seventy percent of participants had never disclosed their sex work to a medical provider (Cohan et al. 2006) which highlights similar stigma towards sex work in other societies.

Conclusion

Regardless of all the barriers set by law and public beliefs, female sex work is a part of the reality for many societies including Iran's. Our team decided to conduct a study on this least known and vulnerable population. Based on findings of this study, high rates of mental disorders such as personality disorders, anxiety disorder, and mood disorder were detected among female sex workers in the northwest of Iran. Financial incentive was reported to be the primary motivation for choosing sex work as a source of income, highlighting the importance of a newer comprehensive approach towards public health policies in the future. Through the regular practice of psychiatry in northwest of Iran and finding our current study, it is clear to us that management of mental health problems should be an essential part of future public health policies when it comes to female sex workers. A larger longitudinal multicenter study with higher power will provide invaluable information regarding manifestation, prevalence, and management of mental illness in this population, raising awareness of this ongoing societal challenge and guiding national policymakers to address the needs and struggles of female sex workers in the northwest of Iran.

Compliance with ethical standards

Conflict of interest The authors declare that they have no conflict of interest.

Ethical approval All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards. This study was approved by ethical committee of Tabriz University of Medical Sciences (Number 5/4/11810).

Informed consent Informed consent was obtained from all individual participants included in the study.

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