



Exploring the Relationship between Drug Addiction and Quality of Life in Herat, Afghanistan: A Cross-sectional Study

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Abstract

Background: Addiction is a global public health problem, with over 36 million people suffering from drug-use disorders. Afghanistan, the world's leading opium producer, has high rates of drug use owing to the easy access to drugs in this country. This study aimed to investigate drug users' quality of life in Herat, Afghanistan, and identify the factors affecting it.

Methods: This cross-sectional study examined health-related quality of life at six rehabilitation camps in Herat, Afghanistan, from March to July 2019, using the short form-36 questionnaire (SF-36). Data collected through interviews were analyzed using SPSS software (version 25).

Findings: A total of 240 participants from six rehabilitation camps in Herat, Afghanistan participated in this study. The majority of participants (80%) rated their overall health as "good" or "very good". Men had higher average scores for mental health and vitality than women and those aged 30-39 had the highest quality of life. Statistically significant differences were found in bodily pain ($P=0.038$), vitality ($P=0.042$), and social functioning ($P=0.046$) among users of different types of drugs. Opium abusers had the highest scores for the physical and mental components, followed by heroin, methamphetamine, hashish, and crack abusers.

Conclusion: This study explored the relationship between drug addiction and quality of life in Herat, Afghanistan. The findings showed that young adults were more vulnerable to drug use and male addicts and opium users had the highest quality of life. This study can inform the development of effective rehabilitation programs but more research is needed for addiction treatment strategies.

Keywords: Drug addiction, Quality of life, Rehabilitation, Mental health, Afghanistan

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Introduction

Addiction is a physical and mental illness that endangers the individual, family, and social health, owing to its progressive nature that harms all aspects of life.^{1,2} It is a significant individual and social problem that, in addition to its physical and psychological effects on addicted people, threatens the health of society from social, economic, political, and cultural perspectives.³ Addiction represents a significant global public health issue that contributes to an increased burden of illness, mortality, and substantial economic consequences. In 2020, approximately 275 million individuals worldwide were engaged in drug use, with over 36 million being affected by drug use disorders.⁴ Among these, 62 million were opioid users. Illicit drug use is associated with substantial global mortality and morbidity, resulting in an estimated 37,926 million disability-adjusted life years (DALYs). Opioid dependence is the primary cause of years of life

lost (YLLs) and is attributed to disorders related to illicit drug use.⁵

Drug use in Afghanistan is a significant concern. Based on the information provided by the United Nations Office on Drugs and Crime, Afghanistan is still the leading producer of opium, responsible for more than 85% of opium production worldwide in 2020.⁴ This high level of opium cultivation, combined with easy access to cheap drugs, limited access to drug use disorder treatment, and a range of socio-economic factors, has led to high rates of drug use among the population. Additionally, the 2019 Afghanistan National Drug Use Survey estimated that approximately 7.4% of adults in Afghanistan engage in opioid use, indicating that around 1.3-1.6 million adult Afghan individuals consume heroin and other opioid drugs.⁶ It also revealed that in roughly 31% of households examined, at least one resident tested positive for the presence of one or more drugs. Furthermore, the rate of



drug use in rural areas was 2.5 times higher compared to urban areas, with the northern and southern regions having the highest rate of drug use. The situation is particularly dire in Herat, where the rate of drug use is among the highest in the country.^{7,8}

Research has shown that opioids, sedatives, and alcohol use are associated with poor quality of life.⁹ According to studies, the mental and physical health of opioid users is worse than that of the general population and even people with health problems.¹⁰ The onset and history of family and social troubles are other factors related to the quality of life in long-term opiate addiction.¹¹ Moreover, studies have shown that drug abuse is associated with lower life quality,^{12,13} and that by strengthening the quality of life in people with drug addiction, consecutive relapses and the inability to quit in the vast majority of addicts decrease.¹⁴

Afghanistan lacks effective policies for addiction treatment, and there is limited information in this regard.^{15,16} Considering the elevated prevalence of drug addiction and its detrimental effects on the quality of life in Herat, Afghanistan, it is essential to comprehend the extent of this problem among affected individuals and their families. Accordingly, the objective of this study was to evaluate the quality of life of drug users in Herat and identify the factors that contribute to diminished quality of life within this particular population. This descriptive cross-sectional study gathered data through surveys and interviews with drug users and their families in Herat, Afghanistan. The findings of this study will provide insights into the impact of drug addiction on the quality of life of individuals and their families and will inform the development of effective treatment and rehabilitation programs for drug users in the region.

Methods

Sampling procedures and eligibility criteria

This descriptive cross-sectional study explored the health-related quality of life among drug users who voluntarily received treatment at rehabilitation camps in Herat, Afghanistan, from March to July 2019. Six rehabilitation camps were selected, representing a diverse range of settings in Herat. The usual duration of stay at the camps ranged from 20 days to one month. Convenience sampling was used, and camps were selected based on their accessibility, availability of patients, and cooperation of the staff. These camps provided inpatient treatment for drug addiction and were staffed by trained medical professionals who provided comprehensive care to patients.

The inclusion criteria were age above 18 years, receiving inpatient treatment at the selected rehabilitation camps in Herat, and providing voluntary consent to participate in the study. The exclusion criteria were patients under the age of 18, not providing voluntary consent to participate in the study, and patients with advanced neurological

diseases or other conditions that would make them unable to participate in the study.

Sample size

Data were collected from 299 patients receiving inpatient treatment at the selected rehabilitation camps in Herat. The inclusion criteria were applied to select patients for participation in the study while excluding those who met any of the exclusion criteria. Finally, 59 patients aged less than 18 years were excluded, resulting in a final sample size of 240 patients.

Data collection

The questionnaire used in this study consisted of two main parts. The first part included questions about the demographic characteristics of participants, such as age group, education status, sex, drug-related occupation, drug use status, current type of drug use, first-time type of drug use, health status, and economic status (monthly income). The second part included questions on the quality of life.

The short form-36 questionnaire (SF-36) on the quality of life: The short form-36 (SF-36) questionnaire is comprised of 36 questions designed to evaluate eight dimensions related to health. These dimensions include physical functioning (PF), role limitations due to physical health problems (RLPH), bodily pain (BP), social functioning (SF), role limitations due to emotional problems (RLEP), general mental health (MH), vitality (VT), and general health perceptions (GH). In general, the questionnaire assesses both physical and mental aspects. The Physical Component Subscale (PCS) includes PF, GH, BP, and RLPH, while the Mental Component Subscale (MCS) includes MH, SF, VT, and RLEP. The Dari version of SF-36 was previously validated by Shayan et al in Herat.¹⁷ The Cronbach's alpha for its eight dimensions ranged from 0.753 to 0.933.

A total of 15 final-year medical students at Ghalib University collected the data after being trained for two weeks. The main condition for data collection was the participant being willing to collaborate, and if a participant had an advanced neurological disease or was unwilling to cooperate, they were not included in this study. The questionnaire was distributed after sufficient information was provided to the participants and their informed consent was obtained.

Statistical analysis

Statistical analyses were conducted using SPSS software (version 25, IBM Corporation, Armonk, NY, USA). Descriptive statistics were used to report quantitative variables, including mean, standard deviation (SD), and ranges, whereas categorical variables were presented as numbers (n) and percentages (%). The SF-36 scores were determined by summing the scores of all 36 items and

subsequently transformed to a 0-100 scale. Higher scores on this scale indicate superior health-related quality of life. The Mann-Whitney U test was used to analyze the distribution of mean and standard deviation for quality-of-life scores among drug users based on sex. The Kruskal-Wallis test was used to analyze the distribution of mean and standard deviation for quality-of-life scores among drug users based on age group and drug type.

Results

A total of 240 participants from six rehabilitation camps in Herat, Afghanistan participated in this study. The demographic characteristics of the participants were as follows: 34.2% were between the ages of 18 and 29 years, 77.5% were male, 65.9% were illiterate, and 79.2% were married.

Most participants rated their overall health as good or very good (80.0%) and were employed in drug-related occupations (83.7%). At the time of the study, 89.5% of the participants were receiving treatment and 74.6% had a monthly income of less than \$100. The most frequently used drug among the participants was heroin (46.3%), while 56.3% reported using opium as their first drug experience (Table 1).

The mean and standard deviation of various quality-of-life dimensions among the participants categorized by sex are presented in Table 2. The findings demonstrate that men achieved significantly higher average scores in mental health (78.14 ± 20.55 versus 65.31 ± 25.12 ; $P < 0.001$) and vitality (75.11 ± 28.88 versus 67.96 ± 27.91 ; $P = 0.046$) compared to women. However, no statistically significant differences were observed in the other dimensions of the quality of life between male and female participants. Men also achieved higher scores on seven out of eight health dimensions, including physical functioning, general health, bodily pain, mental health, vitality, role limitations due to emotional problems, and social functioning, as reflected in the Physical Component Subscale (PCS) and Mental Component Subscale (MCS). The only dimension in which women scored higher than men was role limitations due to physical health problems; however, this difference was not statistically significant.

The mean and standard deviation of different dimensions of quality of life among the participants in the four age groups (18-29, 30-39, 40-49, and + 50 years) are presented in Table 3. No significant differences were found in the eight health dimensions across different age groups. Considering the PCS and MCS, participants in the 30-39 age group demonstrated the highest health quality, followed by those in the 18-29, 50+, and 40-49 age groups, respectively. However, these differences were not statistically significant. Thus, there is no discernible pattern indicating a decline in health quality with advancing age.

Table 1. Sociodemographic characteristics, health perception, and drug use of participants (n=240) (Herat 2019)

Characteristics	No.	%
Age group		
18-29	82	34.2
30-39	72	30.0
40-49	61	25.4
50+	25	10.4
Gender		
Male	186	77.5
Female	54	22.5
Drug use status		
Currently in treatment	215	89.5
Completed treatment	15	6.3
Dependent on drugs	10	4.2
Type of drug use (current)		
Heroin	111	46.2
Opium	58	24.2
Methamphetamine	42	9.2
Crack	22	17.5
Hashish	7	2.9
Health status		
Very good	26	10.8
Good	166	69.2
Average	39	16.3
Bad	7	2.9
Very bad	2	0.8
Education status		
Illiterate	158	65.9
Primary school	20	8.3
Secondary school	35	14.6
High school and university	27	11.2
Drug-related occupation		
No	201	83.7
Yes	39	16.3
Marital status		
Married	190	79.2
Single	41	17.1
Other*	9	3.7
First used drug		
Opium	135	56.2
Hashish	51	21.3
Heroin	19	7.9
Crack	11	4.6
Methamphetamine	11	4.6
Other	13	5.4
Economic status (monthly)		
< \$50	75	31.2
\$50-100	104	43.3
\$100-200	46	19.2
\$200-300	10	4.2
> \$300	5	2.1
Total	240	100.0

*(Widowed/Divorce/ Separately)

The mean and standard deviation of the health dimensions, based on the type of drug used by addicts, are compared in Table 4. The comparison revealed that opium users exhibited significantly higher average physical functioning scores than crack users ($P=0.002$; 97.63 ± 5.83 versus 78.69 ± 25.49). There were statistically significant differences in bodily pain ($P=0.038$), vitality ($P=0.042$), and social functioning ($P=0.046$). However, it is unclear where the differences occurred. Among the physical and mental components (PCS and MCS), opium abusers had the highest health quality, followed by heroin, methamphetamine, hashish, and crack abusers, which was not statistically significant.

Table 2. Distribution of mean and standard deviation of quality-of-life scores among drug users by sex (Herat, 2019)

Sex	Drug user				P*
	Male (n=186)		Female (n=54)		
	Mean	SD	Mean	SD	
SF-36 (Quality of Life)					
Physical functioning	90.56	18.60	82.87	27.26	0.12
RLPH	80.11	35.18	81.48	34.74	0.65
General health	74.10	23.70	71.76	25.97	0.64
Bodily pain	77.08	27.22	69.95	29.34	0.08
Mental health	78.14	20.55	65.31	25.12	<0.001
Vitality	75.11	28.88	67.96	27.91	0.046
RLEP	74.55	41.70	74.07	43.28	0.97
Social functioning	74.93	24.61	67.82	29.40	0.13
PCS	80.46	21.03	76.52	24.29	0.51
MCS	75.68	22.88	68.79	24.32	0.06

PCS, Physical Component Subscale; MCS, Mental Component Subscale; RLPH, Role limitations due to physical health problems; RLEP, Role limitations due to emotional problems.

*Mann Whitney U test.

Table 3. Distribution of mean and standard deviation of quality-of-life scores among drug users by age group (Herat, 2019)

Age group	Drug user								P*
	18-29 (n=82)		30-39 (n=72)		40-49 (n=61)		50+ (n=25)		
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	
SF-36 (Quality of Life)									
Physical functioning	88.34	22.56	91.67	16.59	86.78	22.68	87.25	23.56	0.83
RLPH	78.35	37.22	84.38	32.35	77.46	36.72	83.00	31.22	0.51
General health	75.20	26.16	75.93	22.83	69.95	23.92	70.33	21.79	0.27
Bodily pain	78.60	26.57	76.67	25.98	71.60	30.46	71.30	30.16	0.47
Mental health	74.63	23.50	79.07	19.42	71.26	24.60	76.00	18.86	0.33
Vitality	75.37	28.03	75.56	29.55	71.64	27.03	66.00	32.91	0.33
RLEP	69.51	44.51	78.24	40.40	73.77	41.77	81.33	38.59	0.40
Social functioning	74.24	25.18	73.44	26.28	73.57	28.05	69.50	22.27	0.72
PCS	80.12	21.87	82.16	20.60	76.45	23.37	77.97	21.33	0.45
MCS	73.44	24.54	76.58	23.15	72.56	23.29	73.21	20.55	0.66

PCS, Physical Component Subscale; MCS, Mental Component Subscale; RLPH, Role limitations due to physical health problems; RLEP, Role limitations due to emotional problems.

*Kruskal-Wallis test.

Discussion

This study represents the first investigation of sociodemographic attributes and quality of life among drug users in rehabilitation camps in Herat, Afghanistan. It evaluated factors such as sex, age group, and the specific type of drug used by the participants. The results indicated that the majority of addicts were young and in the 18–29 age group, similar to previous reports and studies in Afghanistan,¹⁸⁻²¹ eastern Saudi Arabia,²² Turkey,²³ and Nepal.²⁴ This suggests that young adults are more vulnerable to drug use, perhaps because of the high levels of stress and distress they experience, and the abundance of drugs in Afghanistan.

As individuals age, the overall health of the general population tends to decline gradually.²⁵ Furthermore, it is worth noting that among addicts, the effects of drug use become increasingly evident, potentially resulting in a more rapid decline in health scores compared to the general population. The present study also found that drug abusers aged 30-39 years had the highest quality of life, although this was not statistically significant. There was no clear pattern of declining health quality with increasing age in this study, which is in contrast to normative population studies such as those in Norway,²⁶ Iran,²⁷ and Scotland.²⁸ It may imply that there is a slightly different pattern of quality of life in addicted individuals which requires further research. Additionally, addicts aged 30-39 are more optimistic about their treatment and have higher opinions about their quality of life than other age groups.

The findings of the current study indicated that male addicts tend to exhibit a higher quality of life than female addicts across multiple dimensions, with statistically significant differences in mental health and vitality. These results are consistent with those of previous studies that

Table 4. Distribution of mean and standard deviation of quality-of-life scores among drug users by drug type (Herat, 2019)

Type of drug	Drug user										P ^a
	Heroin (n=111)		Opium (n=58)		Crack (n=22)		Methamphetamine (n=42)		Hashish (n=7)		
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	
SF-36 (Quality of Life)											
Physical functioning	88.23	22.56	97.63	5.83	78.69	25.49	85.71	22.69	75.89	28.28	0.002*
RLPH	79.73	36.85	90.09	22.91	77.27	38.51	72.62	38.18	67.86	47.25	0.166
General health	73.35	24.12	77.73	19.08	63.26	27.05	73.02	27.66	78.57	28.41	0.265
Bodily pain	75.92	28.12	83.62	23.50	64.32	29.73	69.35	29.79	72.86	23.11	0.038*
Mental health	75.32	23.95	77.13	19.67	65.76	25.05	77.94	18.12	72.38	26.23	0.304
Vitality	75.32	27.76	82.41	19.40	58.64	34.54	66.43	32.30	60.00	41.63	0.042*
RLEP	74.77	41.73	80.46	38.00	69.70	45.90	68.25	45.35	71.43	48.80	0.655
Social functioning	71.40	27.04	81.68	21.23	62.50	27.28	71.73	26.20	78.57	21.30	0.046*
PCS	79.31	22.34	87.27	13.05	70.89	22.99	75.17	25.55	73.79	29.23	0.066
MCS	74.20	24.40	80.42	19.17	64.15	23.09	71.09	23.79	70.60	26.91	0.064

PCS, Physical Component Subscale; MCS, Mental Component Subscale; RLPH, Role limitations due to physical health problems; RLEP, Role limitations due to emotional problems.

*Kruskal-Wallis test.

*P<0.05 is significant

explored the quality of life among Iranian addicts.^{29,30} However, it is noteworthy that the participants in the present study obtained higher quality-of-life scores than those reported in previous studies. This difference is consistent with the general population of other countries, such as the United States, United Kingdom, Canada, and Iran, where men typically outperform women in all dimensions of quality of life.^{27,31-33} The same pattern occurs with a higher decline rate in female Afghan addicts.

The most frequently used drugs by the participants were opium and its potent derivative, heroin, which is in line with previous studies.^{34,35} Opium use was most commonly found in the northeast and western regions of Afghanistan, whereas heroin users make up the majority of drug users under treatment in Afghanistan.¹⁹ The present study also found that opium users have the highest quality of life, while crack abusers have the worst quality of life, differing statistically significantly in physical functioning. The reported physical functioning was higher compared to Canadian (84.90) and Iranian opiate addicts (Male: 76.86 ± 26.70).^{10,29} Even the physical functioning (97.63 ± 5.83) among opium abusers was higher than that of the general population of Canadians (85.80 ± 20.00), Iranians (85.30 ± 20.80), Norwegians (Male: 89.80 ± 15.50; Female: 84.80 ± 20.80), and Americans (92.10).^{10,26,27,31,33} The scores in some other dimensions of the quality of life of Afghan opium users were also higher than those of the previously mentioned normal populations. In comparison, the physical functioning scores of crack users in the present study (78.69 ± 25.49) are similar to those reported in the United States (77.00 ± 26.70).³⁶

Strengths and Limitations

This pioneering study investigated the health-related quality of life among drug users in Afghanistan, representing the first known research of its kind in the country. By addressing this knowledge gap, this study offers valuable insights into the well-being of addicted individuals in Afghanistan, paving the way for future research and intervention. The inclusion of six diverse rehabilitation camps in Herat strengthens the study's findings by providing a representative sample and a broader perspective on the subject. The use of a validated questionnaire, the short form-36 (SF-36), enhances the credibility of the study and allows for standardized comparisons with other populations. The involvement of trained medical professionals in the rehabilitation camps ensured comprehensive care for the participants, further bolstering the reliability of the data. Although the sample size was limited to 240 participants, it provided sufficient data for meaningful analysis and contributed to the statistical power of the study. These strengths not only enhance the credibility and generalizability of the findings but also lay the groundwork for future research and interventions in Afghanistan's drug addiction landscape.

The limitations included the lack of data on the quality of life in both the healthy and addicted populations in Afghanistan, thus limiting the ability to make accurate comparisons. Additionally, this study had a cross-sectional design, which does not allow causality to be established and only provides a snapshot of the current situation. Furthermore, the study sample was limited to drug users receiving treatment in rehabilitation camps in Herat, Afghanistan, and may not represent all drug users in the country. Moreover, it is crucial to consider that

the data in this study were self-reported, which may have introduced bias. Furthermore, the study may have been influenced by social desirability bias, as participants may have provided responses that they believed were socially acceptable. Finally, the study did not evaluate the long-term effects of drug addiction treatment or the influence of treatment on the quality of life.

Conclusion

This study investigated the health-related quality of life among drug users receiving treatment at rehabilitation camps in Herat, Afghanistan. The results showed that most addicts in these camps were in the 18–29 age group, similar to previous reports and studies in Afghanistan and other countries. The study also found that male drug users had a higher quality of life in specific dimensions, such as mental health and vitality, than female drug users. Moreover, this study found that opium users had the highest quality of life among the different groups using different types of drugs. However, it is crucial to note that the study had some limitations, including a lack of data on the quality of life in both the healthy and addicted populations in Afghanistan, a cross-sectional design, and a sample limited to drug users in rehabilitation camps in Herat. Despite these limitations, this study provides valuable insights into health-related quality of life among drug users in Herat, Afghanistan, highlighting the need for further research. These results can be used to develop and implement strategies in addiction treatment camps in Afghanistan to make it easier and more efficient to quit addiction.

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Authors' Contribution

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Competing Interests

The authors declare that they have no conflict of interest.

Ethical Approval

The study was approved by the Research Committee of Ghalib University (Protocol 477, 250218) and the Public Health Department of Herat province.

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