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RESEARCH ARTICLE

MOTIVATIONAL INTERVIEWING WITH SUBSTANCE ABUSERS: POWER OF COUNSELING.

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Abstract

Background: Motivational interview is a client-centered, directive style of counseling that enhances intrinsic motivation to change in order to help resolving the ambivalence that prevents clients from realizing personal goals. Motivational interviewing empowers the client's recovery from substance use
Aim: the study aimed to determine the power of counseling during motivational interview on substance users.
Design: This study followed a quasi experimental research design. **Setting:** it was conducted at "The Psychiatry, Neurology and Neurosurgery Center"; addiction department which is affiliated to Tanta University, Tanta city, Algharbya Governorate, Egypt. **Subject:** The subjects of this study were 60 clients assigned by simple random sampling into two equal groups, experimental and control group. **Tools:** Three tools were used (1) The Simple Screening Instrument for Substance Abuse (SSI-SA), (2) The General Self-Efficacy Scale(GSES), and (3) Substance Use Recovery Evaluator (SURE). **Results:** the main results revealed increase in the recovery rate, after implementation of the motivational interviewing sessions. Statistically significant improvement in self-efficacy degree and substance use recovery rate was also observed.
Conclusion: The present study concluded that motivational interview plays an important role in substance use recovery.
Recommendations: Apply the motivational interviewing sessions in addiction centers, to provide a better prognosis for substance use recovery.

Introduction:-

Substance use is a global serious public health concern that affects not only health, safety and well-being of communities, but also social and economic development [(1)]. In Egypt the official report of the Ministry of Social Solidarity in 2015 stated that 2.4% of the total population is considered as drug users, including men and women at all ages, especially at youth age. Propagation of the drug use problem poses a major threat to the health, social and

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economic status of families, communities and nations as it increases the crime rates, AIDS prevalence, as well as mental and behavioral diseases[2-4].

Various treatment modalities are employed in the treatment of substance use. These treatment modalities involve psychotherapy, which include; cognitive behavioral therapy, rational emotive behavior therapy, dialectical behavioral therapy, eye movement desensitization and reprocessing, trauma focused therapies, as well as other counseling techniques as motivational and educational programs. Pharmacological therapy plays also an imperative role in the treatment. The treatment of substance use must include a combination of these different modalities which are determined according to every client status and needs[5,6].

Counseling has a great important influence in substance use treatment. Substance use counseling includes setting and inspiring the client to work toward mainly short-term goals, to recognize the impact of client ambivalent feelings, and to develop a strategy for responding in a new approach that does not involve substance use. The substance use therapist tries to provide the client with concrete, behavioral options to facilitate recovery. Such options include eluding those things that trigger substance use, joining self-help groups, and leaving or changing situations or relationships that contribute to the substance use. Finally, substance use counseling focuses chiefly on the present rather than on the past. The therapist might become familiar with some of the important historical data, but would not have direct interventions aimed at understanding the effects of past events, excluding perhaps those events that are related to the substance use [7].

The importance of counseling is to enhance the client's motivation. Counseling is a specific, time limited interaction with the client experiencing immediate or ongoing complications related to their health or well-being. It is usually short term and emphases on improving coping skills, supporting healthy behaviors, promoting positive interactions, or precluding illness and disability [8].

It was reported that in substance use treatment, clients' motivation to change has often been the emphasis of clinical attention. Motivation has been labeled as a requirement for treatment. Likewise, lack of motivation has been used to explain the failure of individuals to begin, continue, fulfill with, and be successful in treatment. Actually, motivation for treatment indicated a contract or readiness to go along with a therapist's or program's specific prescription for recovery. It involves the internal needs and desires felt by the client, external burdens and goals that affect the client, as well as their perceptions about risks [9].

Motivational interview (MI) is a collaborative, person-centered form of guiding to stimulate and reinforce motivation for change [10]. The main goal of MI is to inspect and resolve ambivalence to generate a chance for self-change. Ambivalence is defined as the conflict between wanting to change an assumed behavior and preserving the status quo. Ambivalence is resolved after substance use clients are capable of recognizing the incongruity between harms that result from their behaviors and the values, goals and beliefs that are significant to them [14]. Motivational interviewing techniques can be used to influence and enhance clients' positive behavior to attain better health behavior modifications [11].

Motivational interviewing has four principles namely **Express empathy, Develop discrepancy, Roll with resistance–avoid argumentation, and Support self-efficacy. Express empathy;** Refers to the therapist creation a genuine effort to recognize the client's viewpoint and an alike genuine effort to convey that understanding to the client. **Develop discrepancy;** it refers to listening for or employing strategies that help the client's identification of discrepant elements of a specific behavior or situation. Discrepancy may result in the client's experience of ambivalence. Areas of discrepancy may comprise: past versus present; behaviors versus goals. Evoking change talk, *statements by the client revealing consideration of motivation for commitment to change*, is one technique to develop discrepancy. **Roll with resistance –avoid argumentation;** these refer to the therapist's ability to cross step or reduce resistance and advance to connect with the client and draw near the same direction. It also refers to avoiding arguments, and expressing empathy; understanding why a client has a specific belief. **Support self-efficacy;** this is the therapist's ability to support the client's hopefulness and confidence to change and enhancing improvement. Also, it refers to recognizing and building upon a client's strengths, prior successes, efforts and concerns [12-14].

Motivational interviewer seeks to activate substance use clients' own motivation and resources for change rather than just giving them what they might lack, for example, medication or information. This includes joining behavior

change with a client's values and concerns. This entails an understanding of the client's own viewpoint, by evoking the client's own arguments and reasons for change. This is not an absence of caring, but rather it is an acceptance that clients can make their own choices that may bring about the desired health improvements. Identifying and honoring the client's autonomy is a vital component in enabling behavior change [15,16].

Aim of the study:
The aim of this study was to determine the power of counseling during motivational interviewing with substance abusers.

Research hypothesis:
Substance abusers undergoing motivational interview show better enhancement in their recovery, than those who do not.

Research design:
The design followed in this study is a quasi-experimental design.

Research setting:
This study was conducted at "The Psychiatry, Neurology and Neurosurgery Center"; addiction department. This center is affiliated to Tanta University Hospital. The addiction department provides services to males only and consists of 5 rooms with a capacity of 20 beds. It provides detoxification and rehabilitation care. The center provides health care services to Gharbya, Menofia, and KafrElsheikh governates. It works 7 days/week, 24hrs/day.

Subjects:
Sixty adult male clients constituted the study subjects. They were selected from the previous setting. The data collection took 6 months from December 2017 to June 2018. The clients were assigned by simple random sampling into two equal groups, experimental and control group; the experimental group consisted of 30 clients who have attended motivational interview sessions while the control group (30 clients) followed the hospital routine care. The study subjects were fulfilling the following inclusion criteria:

1. Willing to participate in the study.
2. Newly admitted (after 1st week of admission after passing the detoxication stage).
3. Age above 18 years old.
4. Clients with no comorbid psychiatric or mental disorders.

Tools of the study:
The data of this study was collected using the following three tools:

Tool I: Simple Screening Instrument for Substance Abuse
Part (1):
The Simple Screening Instrument for Substance Abuse (SSI-SA).

It was developed by the consensus panel of Treatment Improvement Protocol (TIP) series 11, (Center for Substance Abuse Treatment (1994)[17]. It is a 16-item scale, used to assess Substance consumption, Preoccupation and loss of control, adverse consequences, Problem recognition, Tolerance and withdrawal.

Only 14 items are scored, item No.1 and item No.15 are not scored in the scale. Scores can range from 0 to 14. Where the Score Degree of Risk for Substance Abuse was scored as follows: 0–1 None to low, 2–3 Minimal, 4-14 Moderate to high

Part (2): Substance abusers' socio-demographic and clinical data structured interview schedule:
It was developed by the researcher; it comprises the bio-socio-demographic characteristics of the studied clients. It includes; age, marital status, residence, educational level, occupation and income. As well as the clinical characteristics as types of substances used, the duration of illness, causes of substance use and number of previous hospitalizations.

Tool II: General Self-Efficacy Scale(GSES)
The General self-efficacy scale was developed by Schwarzer and Jerusalem (1993) [18]. It consisted of 10 items to

assess the strength of the individual's belief in his ability to respond to novel or difficult situations and to deal with any associated obstacles.

Each item is rated on a 4 point likert scale where 1= Not at all true, 2= Barely true, 3= Moderately true, 4= Exactly true.

The total score ranges between 10 and 40. The score range as follow:10 – >20= Low, 21 – >30 = Moderate, 31 – 40 = High.

Tool III: Substance Use Recovery Evaluator (SURE)
The substance Use Recovery Evaluator questionnaire was developed by **Neale, Vitoratou, Finch, et al . (2016)** [(19)]. It consisted of 26 questions divided into 3 sections (Section A and B are measuring five categories namely:

1. Section A measures drinking and drug use; questions 1-6.
2. Section B measures: Self-care; questions 7-11, Relationships; questions 12-15, Material resources; questions 16-18, Outlook on life; questions 19-21.
3. Section C measures the importance of each previous category to the client; questions 22-26.

The specific scoring system for each subscale is:
Drinking and drug use = 6-24**,** Self-care = 5-16**,** Relationships = 4-12**,** Material resources = 3-9**,** Outlook on life = 3-9.

The total score ranges between 21 and 63. The score range as follow:
21 – >34= Low**,** 35 – >48 = Moderate, 49 – 63 = High

Method:-

The following steps were followed in this study:
Official permission to conduct the study was obtained from the director of The Psychiatry, Neurology and Neurosurgery Center, affiliated to Tanta University Hospital.

Ethical Considerations:

1. Oral consent was obtained from the clients after explanation of the aim of the study.
2. Clients privacy and data confidentiality were assured. Clients were reassured that the obtained information is confidential and used only for the purpose of the study.
3. Clients' right to withdraw from the study at any phase was emphasized.
4. Tool I (part 2) Substance users' socio-demographic and clinical data structured interview schedule, was developed by the researcher.
5. Tools of the study were translated into Arabic language
6. A jury composed of five experts in the psychiatric field examined the validity of the study tools.
7. Reliability of the tools was measured using Cronbach's Alpha test. Tool I (Simple Screening Instrument for Substance Abuse) reliability was 0.760. Tool II (General Self-Efficacy Scale) reliability was 0.9. Tool III (Substance Use Recovery Evaluator) reliability was 0.921
8. A pilot study was carried out before embarking in the actual work to ascertain the clarity and applicability of the study tools and to identify obstacles that might be faced during data collection. The pilot study was conducted on 5 clients from the psychiatric medicine center. Those clients were excluded from the actual study subjects.
9. The actual study was divided into **four phases:**

a- Assessment phase.

1. All the study subjects (60 clients) were divided by simple random sampling into an experimental group and a control group, composed of 30 clients each. The researcher attended the clinical setting daily, from Saturday to Thursday, in the afternoon. The available clients at the time, and who agreed to participate in the study, were selected, following the mentioned inclusion criteria. According to the available number, the clients were divided randomly into a study and a control group.
2. A pre-test was performed on all the selected subjects. The researcher interviewed each client individually, using the three study tools.

b-Planning Phase.
The researcher developed the motivational program based on the results of the assessment phase, literature review, priorities, goals and expected outcome criteria. [20-21] Some videos and pictures were added by the researcher for more clarification.

c- Implementing Phase
1. The 30 clients composing the experimental group, were divided into sub-groups, formed by 3-5 clients. Each subgroup attended a total of 5 sessions. The time of each session was about 70-90 minutes. These sessions were scheduled as 3 sessions per week. The study was conducted throughout 6 months from December 2017 to June 2018.
2. Different teaching methods and audio-visual materials were used, including group discussion, role play, videos, demonstration and re –demonstration, and homework exercises. Exercise log book was distributed to the clients then collected at the end of the session .

Motivational interviewing counseling sessions:
The First Session (Introductory Session):
The researcher obtained oral consent from them after explanation of the aim of the study and notifying them about the schedule of the program and establishing rapport. The researcher distributed the "Areas of Impact exercise" which determines the areas of client's life that are the most affected by substance use; these areas include family, work, education. The researcher then distributed "the change wheel exercise", to determine the stage of change for each client. The researcher distributed the homework Exercise (Commitment Rating & Confidence Rating) which determines the clients' commitment level to accomplish their goals.

The Second Session:
The researcher revised the homework and gave a feedback about the previous session, then discussed the importance of change and helped clients to set their personal goals and values and discussed them with the clients. The researcher then distributed the "feeling exercise", to help clients determine their feelings associated with the affected area of life. At the end of the session the researcher distributed the homework exercise (Client satisfaction survey) which assessed the client's satisfaction level from the session.

The Third Session:
The researcher revised the homework and gave a feedback about the previous session, then helped the clients to identify and empower the internal and external motivational process related to them. This was done through" brainstorming exercise- short term and long term pros and cons grid". This exercise helped the clients to identify risks of their behavior and benefits of the recovery from substance use. Also, alternative states descriptor exercise which emphasizes the clients' thinking of their own alternatives to get the effect of substance use but with healthy behaviour; these alternatives were classified based on the effect produced by the substance used as sedative, stimulating such as playing sports, fantasy as painting and acting, or happiness as parties. At the end of the session the researcher distributed the homework exercise (Menu of Alternatives), this exercise proposed to the clients a group of healthy behaviors, they had to select the suitable behavior to satisfy their needs in a healthy way.

The Fourth Session:
The researcher revised the homework and gave a feedback about the previous sessions, then helped the clients to enhance their self-efficacy by empowering their values through the values exercise (1). This exercise helped the clients' behaviors to be congruent with their values. These values such as honesty, sincerity, fidelity,….. At the end of the session the researcher distributed the homework exercise (The values 2) which determines the actual clients' behaviors and activities that support their values through the last week.
The Fifth Session:
The researcher revised the homework and gave a feedback about the previous sessions. The researcher discussed with clients the values 2 exercise, then gave a summary about the previous sessions and evaluated of the sessions through reapplication of tool II and tool III.

d- Evaluation Phase:
Evaluate the effect of the motivational interviewing counseling program on all the study subjects (60 clients) by reapplying Tool II and Tool III. This was done as follow:

For the experimental group: Immediately after implementation of the program (post-test 1), and three months after implementation of the program (post-test 2).

For the control group: Three months after implementation of the program (post-test 1).

Statistical analysis:
The collected data were organized, tabulated and statistically analyzed using SPSS version 19 (Statistical Package for Social Studies) created by IBM, Illinois, Chicago, USA. .

Results:-

Table 1 presents the socio-demographic characteristics of the studied clients. The results revealed that most of the clients were within the twenties (56.7%) with a mean age of 26.70±7.424 years for the experimental group and 26.83±9.289 years for the control group. Regarding their residence, more than half of the clients (53.3%) of the experimental group and (66.7%) of the control group, lived in Urban areas. Concerning the clients' marital status, those who were single represented half of the studied clients (50.0%) of the experimental group and more than three quarters of the control group (80.0%). In relation to clients' educational level, about half of the clients had a diploma degree (40.0%) for the experimental group and (43.3%) for the control group. Regarding their occupation, about half of the experimental group (43.3%) were Artisan, and one third (36.7%) of the control group as well. About one third (30.0%) of the control group were unemployed. Regarding clients' monthly income, most of them had not enough income (70.0%) for the experimental group and (76.7%) for the control group.

Table 2 presents the clinical characteristics of the studied clients. The results revealed that in the experimental group; most used substance were hashish (83.3%), alcohol (66.7%), tramadol (63.3%) and for the control group hashish (90.0%), alcohol (76.7%), tramadol (60.0%). Regarding the duration of substance use, about one third of the clients (33.3%) continued using substances for 7:10 years with mean 5.70±3.843 years for the experimental group and about half of the studied clients (46.7%) continued using substances for 4:>6 years for the control group with a mean of 4.77±2.402 years. As regard the reasons behind the substance use, (43.3%) of the experimental group, and (53.3%) of the control group, said that it is because of social problems. While financial problems were mentioned by (23.3%) of the control group, and (16.7%) of the experimental group. Psychological problems were only mentioned by (13.3%) and (10.0%) of the experimental and control group respectively. Concerning the referral for treatment, more than half of the studied subjects, (56.7%) of the experimental group, and (60.0%) of the control one, mentioned that they came by themselves. While (43.3%) and (40.0%) of the experimental and control group respectively said that it is the family who referred them. Only (26.7%) of the experimental group, and (20.0%) of the control one were previously hospitalized.

Table 3 presents the comparison of the studied groups in relation to health problems associated with substance use. The results revealed that the majority of the studied sample (90.0%) and (93.3%) of the experimental and the control group respectively felt sick, shaky, or depressed when they stopped the substance use. Also, about two thirds (76.7%) of the experimental group and (86.7%) of the control group felt "coke bugs" or a crawling feeling under the skin. Those who mentioned having blackouts or other periods of memory loss, represented (50.0%) of the experimental group and (60.0%) of the control one. While (56.7%) and (73.3%) of the experimental and control group respectively, mentioned being injured after drinking or using substances. Concerning using shared needles, about one third (36.7%) of the experimental group and about one quarter (23.3%) of the control group, shared needles. Also, less than one quarter, (16.7%) and (20.0%) of the experimental and the control group respectively, had hepatitis or other liver problems.

Table 4 Shows the degree of substance abuse risk. The results revealed that the majority of the studied clients were at high degree of substance use risk (76.7%) for the experimental group and (90.0%) for the control group. The table also reveals that none of the studied clients, either in the experimental or the control group, were at low risk for substance use.

Table 5 shows the comparison of the studied groups in relation to the total score of general self-efficacy scale. The results showed that 13.3% of the studied clients had a high degree of self-efficacy before the motivational interviewing sessions' implementation. This percentage increased to be (26.7%) immediately after the intervention, and (83.3%) after three months post intervention. A significant correlation was observed as p value = 0.001*. It was also be observed that a significant correlation was found in the control group as well, comparing the three phases of

the study as p value = 0.001*. Comparing the two studied groups, a significant correlation was found between them after three months of the intervention as p value = 0.001*.

Table 6 shows the comparison of the studied groups in relation to the total score of substance use recovery evaluator scale. The results showed that 20.0% of the studied clients had a high self-efficacy before the motivational interviewing sessions' implementation. This percentage increased to be (26.7%) immediately after the intervention, and (83.3%) after three months post intervention. A significant correlation was observed as p value = 0.001*. It was also be observed that a significant correlation was found in the control group as well, comparing the three phases of the study as p value = 0.001*. Comparing the two studied groups, a significant correlation was found between them before the intervention and after three months of the intervention as p value = 0.024* and 0.001* before and three months after of the intervention respectively.

Table 1:-Socio-demographic characteristics of studied substance users

Variables	Experimental group		Control group		X^2	p
	n=30	%	n=30	%		
Age in years:					MCET	0.950
<20	4	13.3	6	20.0		
20-	17	56.7	17	56.7		
30-	7	23.3	5	16.7		
40-	2	6.7	2	6.7		
Mean±SD	26.70±7.424		26.83±9.289			
Residence:					1.111	0.292
Urban	16	53.3	20	66.7		
Rural	14	46.7	10	33.3		
Marital status:					MCET	0.083
Single	15	50.0	24	80.0		
Married	12	40.0	4	13.3		
Divorced	1	3.3	1	3.3		
Separated	2	6.7	1	3.3		
Educational level:					MCET	0.983
Illiterate	8	26.7	6	20.0		
Diploma	12	40.0	13	43.3		
Technical institute	3	10.0	4	13.3		
Bachelor	4	13.3	4	13.3		
Student	3	10.0	3	10.0		
Job:					MCET	0.850
Driver	3	10.0	6	20.0		
Artisan	13	43.3	11	36.7		
Employee	3	10.0	2	6.7		
Security guard	2	6.7	1	3.3		
Sports instructor	1	3.3	1	3.3		
Unemployed	8	26.7	9	30.0		
Monthly income:					0.341	0.559
Enough	9	30.0	7	23.3		
Not enough	21	70.0	23	76.7		

Table 2:-Distribution of studied participants by clinical characteristics

Variables	Experimental group		Control group		X^2	p
	n=30	%	n=30	%		
Abused substances:						
Heroin	16	53.3	12	40.0	1.071	0.301
Alcohol	20	66.7	23	76.7	0.739	0.390
Hashish	25	83.3	27	90.0	FE	0.706
Marijuana	11	36.7	7	23.3	1.270	0.260

Tramadol	19	63.3	18	60.0	0.071	0.791
Aptryl	6	20.0	10	33.3	1.364	0.243
Somadryl	4	13.3	5	16.7	FE	1.000
Duration of abuse in years:					MCET	0.233
1: >3	10	33.3	10	33.3		
4: >6	10	33.3	14	46.7		
7: >10	10	33.3	6	20.0		
Mean±SD	5.70±3.843		4.77±2.402			
Causes of substance use:					MCET	0.600
Psychological problems	4	13.3	3	10.0		
Financial problems	5	16.7	7	23.3		
Social problems	13	43.3	16	53.3		
Curiosity	8	26.7	4	13.3		
Referral for treatment:					0.069	0.793
Self	17	56.7	18	60.0		
Family	13	43.3	12	40.0		
Previous hospitalization:					0.373	0.542
Yes	8	26.7	6	20.0		
No	22	73.3	24	80.0		

""Abused substances: number isn't mutually exclusive.

Table 3:-Comparison of studied groups in relation to health problems associated with substance use

Health problems associated with drug abuse	Experimental group		Control group		X^2	p
	n=30	%	n=30	%		
Had blackouts or other periods of memory loss?	15	50.0	18	60.0	0.606	0.436
Injured your head after drinking or using drugs?	14	46.7	13	43.3	0.067	0.795
Had convulsions, delirium tremens?	13	43.3	23	76.7	6.944	0.008*
Had hepatitis or other liver problems?	5	16.7	6	20.0	0.111	0.739
Felt sick, shaky, or depressed when you stopped?	27	90.0	28	93.3	FE	1.000
Felt "coke bugs" or a crawling feeling under the skin after you stopped using drugs?	23	76.7	26	86.7	1.002	0.317
Been injured after drinking or using substances?	17	56.7	22	73.3	1.832	0.176
Used shared needles to shoot drugs?	11	36.7	7	23.3	1.270	0.260

*****Significant

FE= Fisher exact test

""Health problems associated with drug abuse: number isn't mutually exclusive.

Table 4:-Comparison of studied groups in relation to the total score of Simple Screening Instrument for Substance Abuse scale

Simple Screening Instrument for Substance Abuse	Experimental group		Control group	
	n=30	%	n=30	%
Low	0	0.0	0	0.0
Moderate	7	23.3	3	10.0
High	23	76.7	27	90.0
X^2	1.920			
P	0.166			

Table 5:-Comparison of studied groups in relation to total score of general self-efficacy scale

Self-efficacy scale	Experimental group	Control group	X^2	P

	n=30	%	n=30	%		
Before intervention:					MCET	0.733
Low	5	16.7	7	23.3		
Moderate	21	70.0	21	70.0		
High	4	13.3	2	6.7		
Immediately after intervention						
Low	0	0.0				
Moderate	22	73.3				
High	8	26.7				
Three months after intervention					17.376	0.001*
Low	0	0.0	0	0.0		
Moderate	5	16.7	21	70.0		
High	25	83.3	9	30.0		
X^2	25.564		20.000			
P	0.001*		0.001*			

*Significant
FE= Fisher exact test
MCET = Monte Carlo exact test

Table 6:-Comparison of studied groups in relation to total score of substance use recovery evaluator scale

Substance use recovery evaluator scale	Experimental group		Control group		X^2	P
	n=30	%	n=30	%		
Before intervention:					FE	0.024*
Low	0	0.0	0	0.0		
Moderate	24	80.0	30	100.0		
High	6	20.0	0	0.0		
Immediately after intervention						
Low	0	0.0				
Moderate	22	73.3				
High	8	26.7				
Three months after intervention					17.376	0.001*
Low	0	0.0	0	0.0		
Moderate	5	16.7	21	70.0		
High	25	83.3	9	30.0		
X^2	34.421		18.000			
P	0.001*		0.001*			

*Significant
FE= Fisher exact test

Discussion:-

Motivational interviewing (MI) is the most successfully disseminated evidence based practice in substance use. Motivational interviewing tries to raise the client's awareness of the probable problems caused, consequences experienced, and risks faced as a consequence of their behavior. Motivational interviewing emphases on the present, and requires working with a client to access motivation to change a certain behavior that is not consistent with a client's personal value or goal. The main goals of motivational interviewing are to occupy clients, elicit change talk, and arouse client motivation to make positive modifications.

Regarding the effect of substance use on clients, the present study revealed that before treatment the majority of the studied subjects were heavy substance users, and suffering from multiple problems as consuming too much amount of many types of substances, spending too much time in searching for and using substances, having relationship problems with family or friends, represented mostly in fights and stealing, multiple failures in studying , work problems , legal problems as arguments and breaking rules, psychological problems as feeling guilt, inferiority and rejection from community. Health problems as blackouts and periods of memory loss, multiple and dangerous injuries, convulsions, hepatitis B, C and other hepatic disorders, were also observed.

These results may be due to the unstable life style of the studied sample related to the absence of the role model, incorrect time management and troubled families. Also, most of the studied clients were in the productivity age and working in jobs that need extra physical power. In addition to the social problems and clients' curiosity that play an important role behind the substance use. It should be noticed as well that most of the clients were single, and having no familial responsibilities and thus not motivated to change.

In the same direction, ***Lander L, Howsare J, Byrne M. (2013),*** in their study proved that the effects of a substance use disorder are touched by the whole personal. Substance use disorders have negative effects on emotional, behavioral, social, and occupational patterns of the client, causing poor consequences for the whole family and for the community [(22)].

The present study revealed that marijuana (Hashish) is the most used substance by the studied clients; this may be due to that it is locally available, cheaper than the other used substances, most clients consider it not an addictive and not harmful, it is a natural product, as believed by most people, it doesn't smell like alcohol and, therefore, is not easily detectable. They also use it to enhance mood and feel pleasure.

EL-Zoghby S, Mansour N, et al.(2017) in their study " Pattern Of Illicit Drug Use Among Adults Attending Family Medicine Center of Fanarah Village in Ismailia City Egypt", found that Cannabis is the most widely used substance.[(23)]

Regarding self-efficacy level, the clients believe in their ability to respond to new or difficult situations and to deal with any difficulties. The present study showed that before the implementation of the motivational interviewing sessions most of the clients had false self-efficacy represented in the inappropriate problem solving strategies, as they tended to deal with their daily life problems and situations through aggressive and violent ways, ignoring their problems, being careless or through doing what they want regardless the results. This may be due to ineffective ego state, unstable personality style, observed through repeated return to substance use after periods of stopping, absence of family role, broken families and life stressors.

This study showed a significant improvement observed in clients' self-efficacy, as clients showed high self-efficacy three months after implementation of motivational interviewing sessions. This improvement was observed through their ability to solve difficult problems properly, thinking quietly and consulting trusted people about their problems, being more self-confident in their actual abilities, and accepting their limitations. They were also able to call for help without a feeling of inferiority, remaining calm when facing difficulties, usually handling whatever comes their way and living with less-troubles in their communities. This result may be due to the effect of the several activities applied through the motivational interviewing sessions which increased clients' insight in their abilities and limitations. They also learned the appropriate problem solving skills and coping mechanisms to deal with their daily life problems.

Majer M, Olson D, Komer C. & Jason A. (2015) in their study "Motivation Among Exoffenders Exiting Treatment", suggested that self-efficacy is an important factor for ongoing motivation for change in clients with substance use disorders[(24)]. This goes in line with the present study.

In the same direction, **Lindgren P, Neighbors C, Gasser L, Ramire J, Cvencek D. (2016)** found that self-concept is connected with substance use outcomes, comprising quantity and frequency of use and complications accompanying with use, and that change in self-concept is associated with recovery from substance use [(25)].

In relation to substance use recovery, the present study showed an initial improvement before implementation of motivational interviewing sessions, and gradually reached a high recovery rate three months after implementation of motivational interviewing sessions. This recovery was observed in many domains, as clients spent less or no time in thinking about substances, managing pain and illness by consulting physicians and spending time in useful works. They were also able to take care of their health by eating and sleeping well and following a healthy daily routine. Concerning their relationships, they felt supported, treated with respect and consideration by people, being able to get well with people, feeling positive and happy with overall aspects of life. They expressed that they are able to deal with others with respect, and they also had regular income and stable housing.

This result may be due to the effect of activities applied through the motivational interviewing sessions, which

helped the clients identify their actual problems and adapt with their life without substance use. These activities helped the clients to learn the importance of change, finding proper and suitable alternatives to satisfy their needs and occupy their time by useful means, clarifying the importance of the different community and personal values.
In the same direction, **Brown A, Abrantes M. (2015)** in their study "Motivational Interviewing to Reduce Substance Use in Adolescents", indicated that MI was associated with a major decline in rule-breaking conducts at 6-month follow-up.[26]

This result came in accordance with **Miller R, Rose S. (2015)** in their study "Motivational Interviewing and Decisional Balance: Contrasting Responses to Client Ambivalence", who found that with ambivalent people, a decisional balance intervention inclines to decline commitment to change, whereas MI promotes change.[27]
Sorsdahl K, Myers B, Ward L, et al. (2015) in their study "Adapting a blended motivational interviewing and problem-solving intervention to address risky substance use amongst South Africans". They found that a blended motivational interviewing and problem-solving intervention is an acceptable and effective short-term treatment for addressing risky forms of substance use, as it improves problem-solving skills and reduces impulsivity and careless behaviors.[28]

In this direction, **Navidian A, Kermansaravi F, Tabas E, Saeedinezhad F. (2016)** in their study "Efficacy of Group Motivational Interviewing in the Degree of Drug Craving in the Addicts Under the Methadone Maintenance Treatment (MMT) in South East of Iran". The research results support the point that motivational interviewing declines the degree of drug craving, and rises the possibility of the addicts' maintenance in long-term therapeutic abstinence programs.[29]

In this direction, **Sayegh S, Huey J, Zara J, & Jhaveri K. (2017)** in their "study Follow-up treatment effects of contingency management and motivational interviewing on substance use: A meta-analysis". They found that MI had a significant effect at 6-month follow-up as it enhanced the intrinsic motivation of the clients, changed their behavior and improved their life pattern.[30]

Indeed, **Smedslund G, Berg RC, Hammerstrøm KT, Steiro A, Leiknes KA, Dahl HM, Karlsen K. (2011)** in their study they searched 18 electronic databases, 5 web sites, 4 mailing lists, and reference lists from involved studies and reviews included 59 studies with a total of 13,342 participants. The result proved that there were no significant variances between MI and treatment as usual for either follow-up post-intervention, short and medium follow up. Motivational interviewing did better than assessment and feedback for medium follow-up. Also, MI reduced the level of substance abuse compared to no intervention [31].

It can be concluded that motivational interviewing is effective in treating alcohol and substance use in adults, reducing their unwanted behaviors, and improving their adherence to treatment

Conclusion:-

According to the findings of the present study, it can be concluded that the motivational interviewing sessions played an important role in the recovery of substance users. The use of counseling as part of the motivational interviewing sessions had a positive effect as it has led to a significant improvement in self-efficacy and an increase in the recovery rate, leading to the improvement of clients' relationships, daily routines and ways of living.

Recommendations

The followings are the main recommendations yielded by the present study:

1. Continuous In-service training programs about counseling need to be implemented to provide basic necessary skills.
2. Apply the motivational interviewing sessions in addiction centers to provide a better prognosis for substance use.
3. Increase the numbers of free addiction treatment centers in the different governorates.
4. Establishing rehabilitation centers for the recovered substance users.

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