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Influence of Personality and Sex-role Identification on the Menstrual Distress among Women

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Abstract

The expansion of knowledge about menstrual cycle asserts that psychological attributes play an important mediating role in menstrual disturbances gaining noteworthy attention in the health care sector. The purpose of this study was to highlight the effect personality and sex-role identification has on menstrual distress using a cross-sectional research design. The study participants were 100 women in the age range of 18 to 40 years who were administered Menstrual Distress Questionaire, Eysenck Personality Questionaire and Bem's Sex-role Inventory.Results found significant differences in menstrual distress with regards to education, occupation and cycle length. Asignificant moderate positive correlation was seen between menstrual distress and personality dimensions of psychoticism ($p< 0.01$) and neuroticism ($p < 0.01$). Femininity showed significant inverse relationship ($p < 0.05$) whereas masculinity showed a positive relationship with the menstrual distress.The results signify the need for intervention strategies focusing more onindividualized education programs, counselling, and coping strategies considering the association of personality and gender roles on menstrual distress as opposed to adhering only to the medical models of treatment.

Keywords: Menstrual Distress, Personality, Sex-role Identification, Neuroticism, Masculinity-Femininity, Androgyny

The inclusion of Premenstrual Dysphoric Disorder (PMDD) in the Diagnostic and Statistical Manual of Mental Disorders (DSM) have generated an immense level of attention towards the significance of the disabling nature of menstruation. Menstrual cycle, the fundamental part of women's sexual and reproductive health, can be bewildering because of its associated symptoms. Fluhman (1956) termed these symptoms as menstrual tension which includes adverse signs and symptoms of general nature manifesting themselves rhythmically throughout the various stages of the menstrual cycle. Pain, irritability, anxiety, fatigue, breast tenderness, weight gain are some of the common symptoms associated with menstrual distress. Menstrual distress is currently being studied as both cause and symptom in biological, psychological and sociocultural contexts.

The presence of menstrual distress without any apparent disturbance in the physiological balance as ruled out by recent medical advances provides support to the belief that its origin will in part be found in psychological factors. The psychosomatic concept related to menstrual distress frequently suggests the role of personality in its symptomatology. The literature has found that women with significant menstrual and premenstrual distress are also likely to exhibit irritability, aggression, anxiety and depression at other stages in the cycle as well(Coppen&Kessel; 1963 & Moos, 1968). Neurotic traits, anxious personality and Type – A behaviour are also implicated in menstrual tension (Dinning &Guptill, 1992; Patel et al., 2006; Faramarzi&Salmalian, 2014; &Aperribai et al., 2020) signifying the potential role of personality traits in menstrual disturbances.

Sex-role or gender-role identification is another variable considered having a potentialimpact on a woman's experience of menstrual distress. Sex Role standards can be defined as socially designated behavioural expectations that differ between men and women. Identification withmasculinity, femininityor androgyny exert influence on the attitude women has towards menstruation. Research suggests that women who have conflicts about their identification as female suffer from more menstrual symptoms(Shainess, 1961; &May, 1976). The distress is also seen as a rejection of femininity by women(Berry & McGuire, 1972).Literature advocates that the conventionally feminine woman are more likely to develop cramps and whine aboutother symptoms related to menstruation (Chernovetz etal., 1979 &Toller et al., 2004). However, the evidence linking sex-role orientation to menstrual distressis mixed.

Most of these studies which investigated the influence of personality and sex-roleson menstrual distress focused on the samples of diagnostic conditions such as women having dysmenorrhea or pre-menstrual syndrome.Those women who suffer from menstrual distress but not sufficiently qualifies for any pathological diagnosis are not been considered. In addition, past empirical research in the West suggesting females with more traditional attitudes expressing more severe menstrual symptomatology,(Gough, 1975; &Heilbrun et al., 1990) have not given careful thought to differences of gender roles in Eastern societies. Besides, formerstudies have not investigated the sex-roles asa possible cause of menstrual distress alongside the changing role of women in societyaffecting their gender roles across decades (Wilde &Diekman, 2005; & Ebert et al., 2014). Thus,limited studies in Eastern contexts and the effect of changing gender roles on menstrual distress gives rise to the current research. The study aims to document how personality and sex-role identity relates to menstrual distress in current times. The objectives were to further assess the role of sociodemographic variables and menstrual-related

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variables on menstrual distress. The research hypothesized that there exists a significant relationship among menstrual distress, personality and sex-role identification.

Method

Participants

The target population for the study included females in the age group of 18 to 40 years. The researcher used a convenient sampling method. Prior permission from the respective authorities from different colleges and institutions were obtained The inclusion criteria for participants were females above 18 years who have attained menarche. Women with any known or reported gynaecological disturbances, renal, endocrine, gastroenteric dysfunction, cardiovascular diseases, urogenital infections and with any psychiatric illness were excluded with the help of case history and interview. The final sample for the analysis consisted of 100 women.

Measures

1. Menstrual Distress Questionaire (MDQ)

Menstrual Distress Questionaire (MDQ) constructed by Rudolf. H. Moos in 1969, was adapted with modifications to suit the local culture (Narayanan, 1996). The reported test-retest reliability of the whole test and its subtests range from 0.993 to 0.998. The MDQ is used to analyze the behavioural and affective responses of females in various menstrual phases. The questionnaire contains a description of symptoms classified into eight categories (total 47 items) which are Pain, Concentration, Behavioural Change, Autonomic reaction, Water Retention, Negative Effect, Arousal and Control. The MDQ allows participants to describe their experience and rate the intensity of their experience on 5 points Likert scale from no experience to severe. The total score is 188. Higher scores reflect worse symptomatology.

2. Eysenck Personality Questionaire (EPQ)

Eysenck Personality Questionnaire (EPQ) is a three-dimensional personality assessment tool developed by Hans Jurgen Eysenck and Sybil B. G. Eysenck. It is a self-report tool based on Eysenck's theory of personality and takes about 10 minutes to complete. The EPQ measures the personality traits in 4 scales, Psychoticism (P), Extraversion (E), Neuroticism (N) and Lie (L). The reliability estimates reported by Eysenck (1964) for extraversion range from 0.85 - 0.90, for neuroticism from 0.85 to 0.88 and psychoticism from 0.73 to 0.81.

3. Bem Sex-Role Inventory (BSRI)

The BSRI was originally developed by Bem (1974). The inventory gives a measure of two independent dimensions of masculinity and femininity. The scale consists of 20 masculine (e.g., ambitious, self-reliant), feminine (e.g., tender, warm) and neutral items each. The respondent hasto answeritems on a 7 point Likert scale from "Never true" to "Always true." The internal consistency reported for masculinity and femininity is 0.86 and 0.80 respectively.

Procedure

The study employed a cross-sectional research design. The protocol of the study was presented to the ethics committee of the parent organization and approval was taken. Informed consent was obtained from the participants with a signed form which included information about the study, the purpose, the procedure, the benefits, the consequences, voluntary participation, withdrawal from the study, confidentiality, and contact information of the researchers. A total of 120 women answered the questionnaires out of which 20 questionnaires were found to be inadequate and were excluded, leaving behind a sample size of 100. The collected data were analyzed using appropriate statistical methods using statistical package for social sciences (SPSS) windows version 20.

Analysis of the Data

The collected data from the three measures were coded and analyzed using the Statistical Package for Social Sciences (SPSS) windows version 20. Appropriated statistical methods were used such as frequency, mean, standard deviation, the Karl Pearson’s Product Moment Correlation, t-test and one-way analysis of variance (ANOVA) to interpret the data.

Results

The total number of the participants for the study was 100. The mean age of the sample was 23.85(±5.73) years. The majority of the participants were studying (65%), graduates (61%) and unmarried (78%). The mean age at onset of menarche was 12.89 (±1.29) years. The mean length of menstruation cycle and duration of menstrual bleeding was 28.36 (±5.11) days and5.06 (±1.36) days respectively.The mean number of pad used per day was 3.59 (±1.04) pads.

The mean menstrual distress score for the sample was 44.66 indicating mild distress. The personality profile of the sample showed that the majority of the sample had traits of psychoticism (77%), neuroticism (50%) and were ambiverts (69%). In this study 9% of participants were masculine, 33% were feminine, 19% were androgynous and 39% of them came under the undifferentiated category.

Though the mean (49.54) in Table 1 indicates higher menstrual distress at graduation level, the difference between menstrual distresses according to education is not found to be significant. Table 1 is also indicative of a significant difference found in menstrual distress concerning the occupation. The homemaker were found to have high level of menstrual distress (M = 63.29, SD = 20.92) compared to students (M = 47.65, SD = 26.50) followed by those in service sector (M =33.07, SD = 19.61).

Table 2 show weak negative correlations between the menstrual distress and other menstrual-related variables with significant correlation found with cycle length (r = - 0.20).

Table 3 shows the correlations between menstrual distress and measures of personality and sex-role

identification. There was a moderate positive correlation between menstrual distress and

weak negative correlation with menstrual distress. Table 4 shows that menstrual distress was higher in

Figure 1 Bar graph showing Mean Menstrual Distress for age and marital status groups

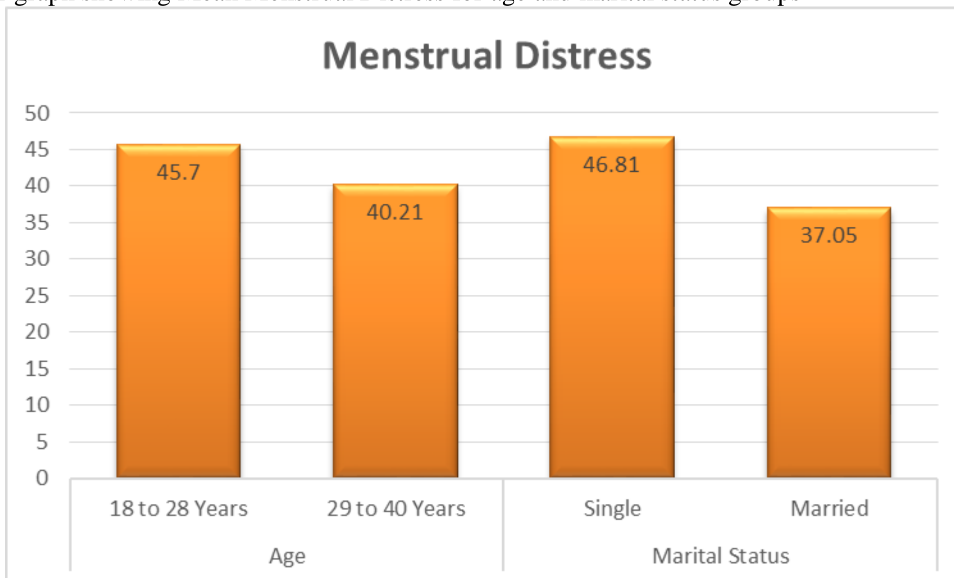

Fig 1 depicts that menstrual distress was higher in the age group of 18 to 28 years and among single women.

psychoticism (r = 0.36) and neuroticism (r = 0.45) as can also be seen in graph 2 and 3, both of which was found to be statistically significant at 0.01 level. However, there was a weak positive correlation with Extraversion (r = 0.13).

the women who came significant on the dimension of psychoticism (M = 48.03, SD = 26.83) compared to those who were nonsignificant (M = 33.39, SD = 16.82).
Table 5 indicates that women who were

Table 1 Mean, Standard Deviation, F and p-Value of Menstrual Distress concerning Education and Occupation

Menstrual Distress		N	Mean	Std. Deviation	F	p-VALUE
Education	**Higher Secondary**	15	41.60	22.93	3.398	0.037
	Graduation	61	49.54	26.08		
	Post-graduation	24	34.17	23.13		
Occupation	**Student**	65	47.65	26.50	5.67	0.005*
	Homemaker	7	63.29	20.92		
	Service	28	33.07	19.61		
* p Value significant at the 0.05 level.						

The study found a weak positive correlation between menstrual distress and masculinity (r = 0.05). A significant moderate negative relationship was seen among femininity and menstrual distress (r = -0.37). The androgynous and undifferentiated type had a

predisposition towards neuroticism had a higher mean of 55.20 compared to those who were average with the mean of 34.71 followed by those who were well balanced with a mean of 5.00 on menstrual distress. The difference was statistically significant at the 0.01

Table 2 Correlation Coefficients of Menstrual Distress and Menstrual related variables

	Menstrual Related Variables	r	p VALUE
Menstrual Distress	Onset of Menarche	- 0.13	0.193
	Cycle Length	- 0.20	0.048*
	Duration of Menstrual Flow	- 0.05	0.643
	No of pad used	- 0.10	0.322
*. Correlation is significant at the 0.05 level (2-tailed). 0.70 to 1.0 – Strong correlation, 0.30 to 0.70 – Moderate correlation & 0.00 to 0.30 – Weak correlation			

level.
It also shows that the extroverts had a higher menstrual distress (M = 57.55, SD = 24.18) in comparison to introverts (M = 50.55, SD = 22.95) and ambiverts (M = 39.99, SD = 25.18) respectively. The difference was found to be statistically significant at 0.05 level.

Table 3 Correlation Coefficients for Menstrual Distress and Measures of Personality and Sex-role Identification

	Measures		Correlation (r)
Menstrual Distress	**Personality**	Psychoticism	0.36**
		Neuroticism	0.45**
		Extraversion	0.13
	Sex-Role Identification	Masculinity	0.05
		Femininity	-0.37*
		Androgynous	-0.17
		Undifferentiated	-0.25

**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

Table 4 Mean, Standard Deviation and t value of Menstrual Distress concerning Psychoticism

	Psychoticism	N	Mean	Std. Deviation	Std. Error Mean	t	df	p - VALUE
Menstrual Distress	Significant	77	48.03	26.83	3.057	2.47	98	0.015
	Nonsignificant	23	33.39	16.82	3.507			

Table 5 Mean and Standard Deviation,F and p-Value of Menstrual Distress concerning Neuroticism and Extraversion

Menstrual Distress		Mean	Std. Deviation	F	p-VALUE
Neuroticism	Neuroticism	55.20	25.18	11.013	0.000**
	Average	34.71	21.25		
	Well Balanced	5.00			
Extraversion	Extrovert	57.55	24.18	4.248	0.017*
	Ambivert	39.99	25.18		
	Introvert	50.55	22.95		

** p-Value significant at the 0.01 level.
* p-Value significant at the 0.05 level.

Table 6 shows significant differences in menstrual distress based on sex-role identification with higher menstrual distress among androgynous women (M = 61.26, SD = 17.75) followed by other gender roles of undifferentiated type, masculinity and femininity.

Discussion

The present study attempted to understand the relationship personality and sex-role identification share with menstrual distress commonly experienced by women. While exploring the same, results showed that age is not a significant predictor of menstrual distress supporting the findings of Boyle (2000). However,higher distress was seen in the younger group probably because menstrual distress is usually at its peak during the adolescent period(Soni&Sumathi, 2014)owing to irregularities and heavy flow for the first few years as elucidated by the immaturity of the hypothalamic-pituitary-gonadal axis (Wiksten-Almstromer et al., 2007). Besides, because a large section of women in India lacksinformation about the biology and various concerns of the menstrual cycle in prior (Bhende, 1994),they do notperceive the typical variability as well as the dysfunction in the menstrual cycle leading to misperceptions which increase the menstrual stress. It can also be attributed to the lifestyle of the present generation wherein obesity, chemical

exposures and psychological stress among young women are quite common and these factors are usually known to impact menstrual distress (Ju et al., 2015; Chang et al., 2009; & Wei et al., 2009).

Table 6 Mean, Standard Deviation, F and p-Value of Menstrual Distress concerning Sex-role Identification

Menstrual Distress		Mean	Std. Deviation	F	p-VALUE
Sex-Role Identification	Masculinity	38.78	27.35	4.245	0.007**
	Femininity	36.82	17.75		
	Androgynous	61.26	30.30		
	Undifferentiated	44.56	25.41		
** p-Value significant at the 0.01 level.					

Differences seen in menstrual distress with regards to education convey beneficial effect education has upon the mental stress of women (Jo et al., 2012). Education increases knowledge about menstruation and the related myths reducing unhealthy behaviours(Garg&Anand, 2015). A significant difference was found in menstrual distress concerning occupation with homemakers reporting a high level of menstrual distress. Homemakers will usually have lesser distractive strategies in hand as compared to students and working women who can utilize other resources such as social support, work-life, medical management, etc. Paige (1973) noted that housewives who assumed that their place is in the home and didn't have any professionaldesires (traditional feminine role) had more menstrual symptoms supporting present findings. However, there are contradictory research findings too stating higher occupational status leading to greater menstrual distress (Thomas & Narayanan, 2006). This is because the higher occupational status will enhance socio-economic status which means people are privileged to have greater leisure time and better social life and hence they are more sensitive to minor discomforts, like the inconveniences associated with menstruation.

The single women were found to experience more menstrual distress in comparison with married women with no significant difference in both groups. This can be again attributed to hormonal fluctuations during the early years of menses. Painful periods and other distress related to menstrual cycle often ease with age, and a lot of women usually find period pains get better after they have given birth which again explains why menstrual distress could be lower in married women. Reviews gathered found that single women were more likely to have malformed menstrual distress patterns in contrast to married women suggesting that married women may have more support at home to relieve stress (Fitzgerald, 2013)

Findings suggested that menstrual distress tends to be stronger as the age of onset declines and vice-versa. The earlier the onset of menarche, the earlier females have to face menstruation and associated symptoms in their life and for which they might not be ready and knowledge might also be limited leading to significant misperceptions, discomfort and suffering. This is consistent with the observations of Yamamoto (2009) who found that age at menarche was animportant predictor for menstrual symptomatology. The negative correlation between the menstrual distress and cycle length was statistically significant indicating that as the cycle length increases the distress tends to decrease. The previous study also showed consistency with the result showingthe shorter the cycle length the more stress women experience (Fenster, 1999). However, studies also found thatirrespective of whether the cycles are short or long women experience an almost equal amount of distress (Hatch et al., 1999). There was a weak negative correlation between menstrual distress and both duration of menstrual flow and number of pads used. Excessive menstrual bleeding, either in quantity or duration, is stressful. However, the present study found vice versa. There is no clear cut consensus on how much bleeding is normal in the general population. Most probably women compare it with their mothers, sisters or other close friends (Nair, 2007). Also, the number of the pad used is based on the practices of menstrual hygiene one adhere to and commenting about the quantity of bleeding based on the number of pads would be incorrect.

Regarding personality dimensions affecting menstrual distress, it was found that women who have psychotic predispositions had a higher tendency to experience a greater level of menstrual distress. Research states that people with traits of psychoticism are most likely to utilize maladaptive methods of coping and thus become considerably more susceptible to stress when already in a challenging situation (Kaur et al, 2013). Thus women experiencing menstrual discomfort or distress might perceive it even at a greater extent.

Women having a predisposition towards neuroticism had a higher significant menstrual distress supporting findings of Sommer (1992). This association is presumably because of the impact of the characteristic of neuroticism on pain perception. As a vulnerability factor neuroticism lowers the threshold of pain perceptions (Goubert, 2004) and this highpain

sensitivity contributes to menstrual distress. Besides, high neuroticism is relatedto the presupposition that pain is secretive, aversive, and will last all through life (Ramirez-Maestre et al., 2004). Thetendency to exaggerate negative feelings, complain about discomforts in their life, use of maladaptive defences and seek secondary gain can make neurotic personalities vulnerable to perceive menstrual discomforts as distressing and troubling(Komulainen et al., 2014, Reynaud, 2012 and Van der Ploeg, 1987).

A significant difference was found in menstrual distress concerning extroversion. Reviews suggest that because extroverts are more social and communicative, they air their distress reporting symptoms rather than letting it fester like introverts. Also,since introversion is often been equated with neuroticism (Bradly, 1996), menstrual distress would have been more in introverts (Khalajinia, 2008). This has been contradicted by Zaeem (2014) who found results of extraversion being negatively correlated with menstrual distress. Nevertheless, the attitude and stigma towards menstruation can also play a role here as being an extrovert doesn't necessarily mean women would talk freely about their symptoms.

Another important finding of the study was that there is a significant negative correlation between menstrual distress and femininity indicative of more the feminine nature lesser the menstrual distress. The feminine women might see menstruation as a natural event associated with womanhood and as an evidence of not being pregnant which helps them accept the minor discomforts linked with the menstrual cycles. Martin (1995) found that identification with feminism is related to positive mood at the time of menstruation. Consequently, Paige (1973) found that menstrual distress is more common in traditional feminine women.

In contrast, masculinity had a positive correlation with menstrual distress suggestive of more distress among women who are on the positive spectrum of masculinity. Similar findings are also reported byWoods and Launius (1979),Woods et al. (1982) and Jain et al. (2018). This is because more masculine women have lesser acceptance of the conventional female role and see the menstruation cycle as an additional inconvenience (Berry & McGuire, 1972). Another approach of looking at this result is the situation wherein women having menstrual symptoms periodically get reminded of their gender unpleasantly and this might react intensely with their acceptance or rejection of traditional roles (Slade et al., 1980). To preserve the masculine identity women might also avoid conversation related to menstruation (Chrisler et al., 2016) which gradually leads to lack of knowledge about the menstruation increasing the health consequences which surfaces through menstrual distress.

The percentage of androgynous and undifferentiated type gender roles were higher in the sample and this explains why the menstrual distress score was higher in this group. Also, this increased frequency of bothandrogynous and undifferentiated sex-role might be due to social, cultural or religious differences of the sample not limited to the probability of the changing nature of sex-roles across time periods. This shows how thisunidimensional variable of masculinity-femininity is no longer found in the present generation and the majority is bridging the gaps between these extreme stereotyped gender roles. Androgyny is seen positively where a balance of both masculine and feminine traits helps to better adapt in situations. Recent research studying the influence of gender role on attitudes towards menstruation also found a similar distribution of sex-role with the percentage of undifferentiated type higher in the sample (Ghiasi, 2019).Although more research on existing gender roles in society is required to comment accurately on this.

The results showed that higher the androgyny scores lower the menstrual distress indicating having androgynous sex-role has a beneficial effect on menstrual symptoms. This is because the individuals high on androgyny are usually flexible, have higher self-esteem and since they acceptpersonality characteristics of both traditional genders, the greater repertoire of attributes they inculcated, helps them to adapt to the stressful situations more easily (Wiggins &Holzmuller, 1978). Studies have also shown that androgynous girls have reported low pain during menstruation (Saxena, 2016) and many claims that psychological well-being is positively linked to psychological androgyny (Hooberman, 1979).

On the other hand,Campbell (1988) found that androgynous females reported more menstrual symptoms and he explained this result through differences the androgynous individuals have in expectations of menarche and their inability to find social meaning in this event.The inconsistent evidence on the effect of sex-role has offered another perspective which stresses on menstrual distress being a function of both attitude and behaviour. It was observed that the masculinity only co-relates with menstrual symptomatology if the female held more contemporary outlooks of their role and femininity influencesmenstrual distress only if women share traditional views of their role (Heilbrun, 1990).However, much of the studies done related to sex-role were in the 1900s and need a lot of refinement for understanding the changes that have come across in the present era. To conclude, the significant associations of certain personality traits and sex-role types with menstrual distress found in the study accept the hypothesis stating a link between the three constructs.

Conclusion

The study attempted to understand the relationship between menstrual distress, personality and sex-role identification in women. The results found a significant relationship of menstrual distress with

personality traits of psychoticism and neuroticism accepting the hypothesis that there will be a significant association with menstrual distress concerning personality. Another significant finding having a significant correlation between menstrual distress and femininity provides evidence for the relationship between the two. However, there is a need for an equally distributed sample inorder to comment accurately onthe influence of both the independent variables on menstrual distress considering the unequal distribution of both personality and sex-role profile in the present sample. Further studies should also develop interventions suiting different personality and sex-role types to help cope with menstrual distress they experience.

Implications of the study

The present study is one of its kind in India looking together at the role of personality and sex role in menstrual distress. Individual differences in the menstrual distress are significant and of obvious importance in diagnostic and therapeutic work. The study is significant in terms of exploring emerging sex-roles in society and how this change has affected the attitudes and consequently the menstrual discomfort experienced by women. Unlike other studies, the present study suggests interventions to help professionals in the field to educate the generation and treat those women whose menstrual symptoms might be an interplay of personality and sex-roles with or without the physical cause. The following recommendations are useful.

- The adolescents must be provided with accurate knowledge about the menstrual cycle, related practices and dysfunctions associated with it.
- Conducting awareness programs among mental health professionals about females experiencinganxiety in day-to-day life because of menstruation and the training for the therapeutic solutions of those problems.
- Current information aboutteenager's menstruation and associated conditions must be gathered and utilized to design public health education programs that will help encourage the females to relieve their distress on their maintaining and promoting their wellbeing.
- The personality structure can be improvised by using individualized education programs; counselling, various effective coping methods, participation on social groups for introverts, etc. given the individual differences in discomforts related to menstruation.
- Use of muscle relaxation training, systematic desensitization and mindfulness therapy as an alternative to reduce menstrual pain.
- Directing women to exercise, yoga and sportive activities for good health.

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