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Original Research Article

A cross-sectional analytical study to assess the psychological well-being and self-esteem among female sanitary workers in a selected tertiary care hospital, Puducherry

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ABSTRACT

Background: According to the National Institutes of Health (NIH), it was reported that atleast 57.8 million adults live with some kind of mental illness. The prevalence of any mental illness is higher in females (27.2%) than males (18.1%). By 2030, reduce by one third premature mortality from non-communicable diseases through prevention and treatment and promote mental health and well-being.
Methods: A quantitative cross-sectional analytical study was designed to collect data from 384 female sanitary workers working on a contract basis at JIPMER using the convenient sampling technique. A validated self-structured questionnaire to assess socio demographic data, a standardized Ryff and Keyes Psychological well-being scale (1995) and Rosenberg Self-esteem scale (1965) were used.
Results: It was found that mean and standard deviation of psychological well-being score was found to be 78.24 and 13.03. The level of self-esteem was found to be normal among 318 (82.8%) female sanitary workers and found to be low among 66 (17.2%) female sanitary workers. It was found that there was a high positive correlation between psychological well-being and self-esteem among the study participants. Since p-value was <0.001, there was a significant correlation.
Conclusions: Through this study, we came to know the demands and challenges of the female sanitary workers which is not only essential for the individual health but also for the broader community's well-being and productivity.

Keywords: Female sanitary workers, Psychological well-being, Puducherry, Sanitary workers, Self-esteem

INTRODUCTION

As per WHO, mental health is "a state of mental well-being that enables people to cope with the stresses of life, to realize their abilities, to learn well and work well, and to contribute to their communities".[1] It was reported that atleast 57.8 million adults live with some kind of mental illness by The National Institutes of Health (NIH). The prevalence of any mental illness is higher in females (27,2%) than males (18.1%). The most of the females (51.7%) have taken mental health services than males (40.0%).[2]

According to Ryff & Keyes (1995), Psychological well-being consists of 6 items: Autonomy, Environmental mastery, Personal growth, Positive relations, Purpose in life, Self-acceptance.[3,4] According to Rosenberg (1965), self-esteem is one's positive or negative attitude toward oneself and one's evaluation of one's own thoughts and feelings overall in relation to oneself.[5,6] Sanitary workers are individuals, either employed or otherwise, tasked with

the cleaning, maintenance, operation, or emptying of sanitation technology at various stages of the sanitation chain. This encompasses a wide range of roles including toilet cleaners and caretakers in domestic, public, and institutional environments and workers at sewage and fecal waste treatment and disposal facilities.[7] The main objectives of the study were to assess the psychological well-being and self-esteem of female sanitary workers.

METHODS

Study design and setting

The study is a cross-sectional analytical design conducted in Jawaharlal Institute of Postgraduate Medical Education and Research (JIPMER) from September 2023 to November 2023.

Study participants and sampling

The study participants are female sanitary workers who are working in JIPMER under Krystal Services on the contract basis and who met the inclusion criteria. The convenience sampling technique was used.

Inclusion criteria

Female sanitary workers working in JIPMER hospital, females who are able to read and understand Tamil and English were included.

Exclusion criteria

Females who are already diagnosed and living with chronic illnesses, and females who are on treatment for psychiatric illnesses were excluded.

Independent variables: Demographic variables (age, education, residence, work experience, type of family, marital status, number of children, occupation of husband, husband's alcoholic status, number of children, income satisfaction, Leisure time activities, family support, satisfaction with income, leisure time activities, family support system, facing domestic violence, number of earning members in the family, traveling distance from home to workplace). Dependent variables: Psychological well-being and Self-esteem.

Sample size

Sample size was estimated by considering the expected proportion of poor psychological well-being and self-esteem among female sanitary workers as 50% at 5% level of significance. Sample size was calculated by using the method for estimation of single proportion and the estimated sample size was 384.

Data collection tools and techniques

Socio-demographic proforma consists of age, education, residence, work experience, type of family, marital status, number of children, occupation of husband, husband's alcoholic status, number of children, income satisfaction, Leisure time activities, family support, satisfaction with income, leisure time activities, family support system, facing domestic violence, number of earning members in the family, traveling distance from home to workplace. Ryff & Keyes Psychological well-being scale (1995) was used to assess Psychological well-being and Rosenberg Self-esteem scale (1965) was used to assess Self-esteem.

Statistical methods

Continuous variables such as age, education, residence, work experience, type of family, marital status, number of children, occupation of husband, husband's alcoholic status, number of children, income satisfaction, Leisure time activities, family support, satisfaction with income, leisure time activities, family support system, facing domestic violence, number of earning members in the family, traveling distance from home to workplace were expressed as frequency and percentage. The level of psychological well-being was expressed as mean, standard deviation, median and interquartile range. The level of Self-esteem was expressed as frequency and percentage. The relationship between psychological well-being and self-esteem were analyzed by using Karl Pearson correlation coefficient. Association of level of psychological well-being and self-esteem with the selected categorical demographic variables were analyzed using Mann-Whitney test and Kruskal Wallis test. All the statistical analysis will be carried out at 5% level of significance and $p<0.05$ will be considered as significant.

RESULTS

The description of socio demographic variables of female sanitary workers was shown in Table 1.

It was found that the median of psychological well-being score was found to be 77 (Table 2).

The level of self-esteem was found to be normal among 318 (82.8%) female sanitary workers and found to be low among 66 (17.2%) female sanitary workers (Figure 1).

It was found that there was a high positive correlation between psychological well-being and self-esteem among the study participants. The correlation ($r=0.6231$) indicates a moderate to strong positive correlation between psychological well-being and self-esteem. Since p-value was <0.001, there was a significant correlation (Table 3 and Figure 2).

Table 1: Socio-demographic profile of female sanitary workers (n=384).

Categorical variables		Frequency (N)	Percentage (%)
Age in years	20-30	14	3.6
	30-40	134	34.9
	40-50	194	50.5
	50 and above	42	10.9
Education	Illiterate	99	25.8
	Primary (1st to 5th standard)	68	17.7
	Secondary (6th to 12th standard)	207	53.9
	Graduate	10	2.6
Residence	Rural	168	43.8
	Urban	135	35.2
	Semi-urban	81	21.1
Work experience (in years)	<2	43	11.2
	2-5	79	20.6
	5-10	145	37.8
	10 and above	117	30.5
Type of family	Nuclear	248	64.6
	Joint	88	22.9
	Extended family	48	12.5
Marital status	Married	299	77.9
	Widowed	4	1.0
	Single	48	12.5
	Divorced	33	8.6
Number of children	NA	48	12.5
	No children	7	1.8
	1 child	27	7.0
	2 children	243	63.3
	more than 2 children	59	15.4
Occupation of husband	NA	85	22.1
	Private	198	51.6
	Government	1	0.3
	Own	55	14.3
	Unemployed	45	11.7
Is husband alcoholic	NA	85	22.1
	Yes	129	33.6
	No	170	44.3
Are you satisfied with income	Yes	175	45.6
	No	209	54.4
Leisure time activities	Nothing	285	74.2
	Going out anywhere	48	12.5
	Reading books	20	5.2
	Talking with neighbours	31	8.1
Family support system	Available	183	47.7
	Not available	201	52.3
Are you facing domestic violence	Yes	45	11.7
	No	339	88.3
Number of earning members in the family	One	113	29.4
	Two	271	70.6
Travelling distance from home to workplace	<10 kms	8	17.7
	10-20 kms	132	34.4
	20-30 kms	124	32.3
	30 kms and above	60	15.6

Table 2: Level of psychological well-being score among the female sanitary workers (n=384).

Psychological well-being score		
Median	**Q1**	**Q3**
77	70	84

Table 3: Correlation between psychological well-being and self-esteem among the female sanitary workers (n=384).

Psychological well-being and self-esteem	
Pearson's correlation	0.6231
p-value	<0.001*

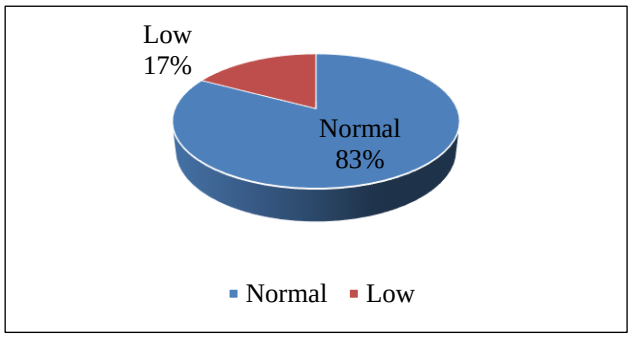

Figure 1: Level of self-esteem among the female sanitary workers.

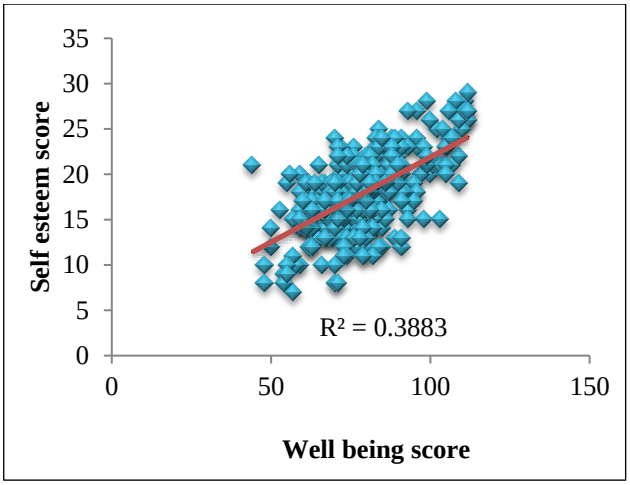

Figure 2: Correlation between psychological well-being and self-esteem among the study participants.

It was found that the socio demographic variables such as education, residence, type of family, number of children, satisfaction with income, family support system, number of earning members in the family, travelling distance from home to workplace were found to be associated with the psychological well-being of the female sanitary workers whereas the level of psychological well-being was not influenced by any other socio demographic variables (Table 4).

Table 4: Association of psychological well-being score with different socio demographic variables (n=384).

Demographic variables		Frequency (N)	Median (Q1, Q3)	Mann Whitney test/Kruskal-Wallis test	P value
Age in years	20-30	14	74.5 (71, 78)	4.713	0.194
	30-40	134	78 (70, 85)		
	40-50	194	78 (72, 85)		
	50 and above	42	73 (69, 80)		
Education	Illiterate	99	74 (66, 82)	14.924	0.002
	Primary	68	74 (70, 83.5)		
	Secondary	207	79 (72, 86)		
	Graduate	10	75 (61, 82)		
Residence	Rural	168	78 (71, 86)	10.544	0.005
	Urban	135	77 (71, 85)		
	Semi-urban	81	74 (67, 80)		
Work experience (in years)	<2	43	78 (72, 88)	1.383	0.710
	2-5	79	76 (70, 83)		
	5-10	145	77 (70, 84)		
	>10	117	77 (71, 85)		
Type of family	Nuclear	248	78 (70, 85)	8.016	0.018
	Joint	88	77 (72, 87.5)		
	Extended family	48	73.5 (69, 80)		
Marital -status	Married	299	77 (71, 83)	3.399	0.334
	Widowed	4	81.5 (75.5, 97.5)		
	Single	48	81.5 (70.5, 93.5)		
	Divorced	33	77 (68, 81)		

Continued.

Demographic variables		Frequency (N)	Median (Q1, Q3)	Mann Whitney test/Kruskal-Wallis test	P value
Number of children	NA	48	81.5 (70.5, 93.5)	12.503	0.014
	No children	7	73 (69, 85)		
	1 child	27	78 (68, 90)		
	2 children	243	76 (70, 82)		
	More than 2 children	59	80 (74, 88)		
Occupation of husband	NA	85	78 (70, 88)	2.593	0.628
	Private	198	77 (70, 83)		
	Government	1	85 (85, 85)		
	Own	55	78 (71, 86)		
	Unemployed	45	75 (71, 81)		
Is husband alcoholic	NA	85	78 (70, 88)	1.983	0.371
	Yes	129	75 (69, 83)		
	No	170	78 (71, 83)		
Are you satisfied with income	Yes	175	80 (73, 91)	26.511	0.000
	No	209	74 (68, 81)		
Leisure time activities	Nothing	285	76 (70, 84)	2.705	0.439
	Going out anywhere	48	78 (74, 84.5)		
	Reading books	20	82.5 (70, 85)		
	Talking with neighbours	31	79 (71, 87)		
Family support system	Available	183	80 (73, 87)	35.203	0.000
	Not available	201	74 (67, 80)		
Are you facing domestic violence	Yes	45	76 (68, 86)	0.080	0.778
	No	339	77 (71, 84)		
Number of earning members in the family	One	113	80 (72, 90)	4.722	0.030
	Two	271	77 (70, 82)		
Travelling distance from home to workplace (in kilometres)	<10	68	80 (73, 87.5)	8.422	0.038
	10-20	132	76.5 (69, 81)		
	20-30	124	75 (70.5, 86)		
	30 and above	60	78 (70, 85.5)		

*p<0.005 statistically significant

Table 5: Association of Self-esteem score with socio demographic variables (n=384).

Demographic variables		Frequency (N)	Mean	Standard Deviation	Mann Whitney test/Kruskal-Wallis test	P value
Age in years	20-30	14	16.79	4.42	1.201	0.753
	31-40	134	17.75	4.34		
	41-50	194	17.95	3.77		
	50 and above	42	17.67	2.99		
Education	Illiterate	99	16.79	3.73	12.328	0.006
	Primary	68	17.35	3.89		
	Secondary	207	18.45	3.95		
	Graduate	10	17.6	3.24		
Residence	Rural	168	17.71	4.18	13.265	0.001
	Urban	135	18.67	3.57		
	Semi-urban	81	16.58	3.59		
Work experience (in years)	<2	43	17.95	3.87	5.606	0.132
	2-5	79	17.2	3.28		
	5-10	145	17.64	4.43		
	10 and above	117	18.37	3.61		

Continued.

Demographic variables		Frequency (N)	Mean	Standard Deviation	Mann Whitney test/Kruskal-Wallis test	P value
Type of family	Nuclear	248	17.82	3.93	5.399	0.067
	Joint	88	18.42	4.16		
	Extended family	48	16.63	3.13		
Marital status	Married	299	17.87	3.93	1.959	0.581
	Widowed	4	19.5	5.57		
	Single	48	17.33	4.2		
	Divorced	33	17.73	3.25		
Number of children	NA	48	17.33	4.2	8.996	0.061
	No children	7	16.86	5.01		
	1 child	27	18.52	3.81		
	2 children	243	17.58	3.83		
	More than 2 children	59	18.92	3.85		
Occupation of husband	NA	85	17.59	3.9	4.515	0.341
	Private	198	18.02	4.04		
	Government	1	23	-		
	Own	55	17.24	3.7		
	Unemployed	45	17.89	3.66		
Is husband alcoholic	NA	85	17.59	3.9	1.948	0.378
	Yes	129	17.7	3.8		
	No	170	18	4.03		
Are you satisfied with income	Yes	175	18.76	4.26	21.093	0.000
	No	209	17.01	3.42		
Leisure time activities	Nothing	285	17.93	4.01	1.150	0.765
	Going out anywhere	48	17.94	3.34		
	Reading books	20	17.05	3.63		
	Talking with neighbours	31	16.94	4.13		
Family support system	Available	183	18.72	3.94	18.695	0.000
	Not available	201	16.98	3.72		
Are you facing domestic violence	Yes	45	17.84	3.87	0.118	0.731
	No	339	17.8	3.93		
Number of earning members in the family	One	113	17.79	3.77	0.097	0.756
Travelling distance from home to workplace (in kilometres)	<10	68	18.31	4.26	2.609	0.456
	11-20	132	17.48	4.34		
	21-30	124	17.69	3.24		
	30 and above	60	18.2	3.84		

*p<0.005 statistically significant

It was also found that the socio demographic variables such as education, residence, satisfaction with income and family support system were found to be associated with the self-esteem of the female sanitary workers whereas the level of self-esteem was not influenced by any other socio demographic variables (Table 5).

DISCUSSION

In this study, it was found that the mean and standard deviation of psychological well-being score was found to be 78.24 and 13.03. The mean score of 78.24 indicates the average psychological well-being score among all the participants. The above findings were supported by the following studies:

There was a similar descriptive study conducted by Madhusudanan et al (2017) to assess the psychological well-being of working women at Pondicherry University. The samples were collected through simple random sampling technique. The sample size was 41 working women. The data for socio demographic variables and Ryff & Keyes psychological well-being scale (1995) was administered. It was found that the median score was 78 with 60 as the least score and 99 as the high score. There were 25 participants who have scored below 65th percentile and the remaining participants have scored above 65th percentile. Most of the study participants have high score in psychological well-being.[4]

A partial contradictory study was conducted by Afsana et al (2016) in which the mental health and psychological well-being was assessed among Teachers and Lecturers at Bhavnagar, Gujarat. A sample size of 120 (60 teachers and 60 lecturers) were selected. The research tools such as mental health scale measured by Dr. A K Shreevastav and Dr. Jagdish and Psychological well-being scale by Bhogle & Prakash (1995) were used in the study. The t-test was used for statistical analysis. The mean difference of mental health findings of the study revealed that the mean and Standard deviation for teachers was 41.03 and 9.79, the mean and Standard deviation for lecturers was 52.33 and 4.37 and t-value was 0.53 in which there was significant difference. The mean difference of psychological well-being findings of the study revealed that the mean and standard deviation was 20.07 and 4.14, the mean and standard deviation of psychological well-being was 20.03 and 3.31 and t-value was 0.70 in which there was no significant difference. The study shown that there was no significant difference between lecturers and teachers.[8]

The level of self-esteem was found to be normal for 318 (82.8%) female sanitary workers which indicates that the most participants feel reasonably positive about themselves and their abilities and found to be low for 66 (17.2%) female sanitary workers which suggests that nearly one in five female sanitary workers experience feelings of inadequacy or lower self-worth.

A similar comparative study conducted by Mishra et al (2020) to assess self-esteem among rural and urban women at Madhya Pradesh. The random sampling technique was used. The sample size was 180 rural and 180 urban women. The tool used was Rosenberg self-esteem scale (1995). The study results showed that the mean score among rural women was 15.98 (normal) and among urban women was 20.93 (normal). It was found that the average score of urban women was higher than rural women. The t-value was 10.06 and $p<0.01$ which indicates that it was statistically significant.[9]

A similar cross-sectional partial contradictory study conducted by Al-Qahtani et al (2021) to assess the role of self-esteem and self-efficacy in women empowerment in Saudi Arabia. It was done at 15 governmental universities. The sampling technique was multistage cluster sampling technique. The sample size was 5587. The socio-demographic variables, Rosenberg self-esteem scale, general efficacy scale, women empowerment scale were used for data collection. The self-esteem was found to be between moderate in 49.8% participants and high in 50.2% participants. The self-efficacy was found to be high in 66.9% and the total women empowerment was found to be high in 86.8% participants. Through this study, it was found that the important predictors of the total women empowerment were self-esteem ($t=13.785$, $p<0.001$) and self-efficacy ($t=76.049$, $p<0.001$). The study indicates that self-efficacy and self-esteem account for 73.4% of the women empowerment level.[10]

In this study, Karl Pearson's correlation co-efficient was used. We found that there was a high positive correlation between psychological well-being and self-esteem among the study participants. The correlation (r) indicates a moderate to strong positive correlation between psychological well-being and self-esteem which means that as self-esteem increases, psychological well-being also tends to increase and vice versa. Since p-value was <0.001, there was a significant correlation. It means that this correlation occurred by chance is less than 0.1%.

A similar cross-sectional study conducted by Nwankwo CB (2015) to assess relationship between perceived self-esteem and psychological well-being among student athletes at Ebonyi State University, South East of Nigeria. The samples were chosen on a random basis. The sample size was 350 whose age was between 18-30 years. The tools used for data collection were Rosenberg self-esteem scale (1965) and psychological well-being scale developed by Ryff and Dupuy (1995), a 42-item scale. The data analysis was done through Pearson product moment correlation and t-test of significance. The findings of this study showed that as r-observed value (0.745) was greater than r-critical value (0.190), there was a significant relationship between self-esteem and psychological well-being. As t-calculated value (6.537) was greater than t-critical value (1.87), there was a significant relationship between high self-esteem with psychological well-being. As t-calculated value (1.189) was lower than t-critical value (5.345), there was no significant relationship between low self-esteem with psychological well-being.[11]

It was found that the socio demographic variables such as education, residence, type of family, number of children, satisfaction with income, family support system, number of earning members in the family, travelling distance from home to workplace were found to be associated with the psychological well-being of the female sanitary workers whereas the level of psychological well-being was not influenced by any other socio demographic variables.

It was found that the socio demographic variables such as education, residence, satisfaction with income and family support system were found to be associated with the self-esteem of the female sanitary workers whereas the level of self-esteem was not influenced by any other socio demographic variables.

A similar descriptive correlational study conducted by Roy et al (2016) to assess the psychological well-being and self-esteem among children (18-25 years) of mentally ill parents at a selected psychiatric unit, Mangaluru. The sampling technique was purposive sampling technique. The sample size was 100 with the age group of 18-25 years. The tools used were psychological well-being developed by Bhogle & Jayaprakash and Rosenberg Self-esteem scale. The results showed that 55% have Intermediate psychological well-being, 45% have high

psychological well-being and 6% have low self-esteem, 3% have high self-esteem and 91% have normal self-esteem. It was found that there was no significant correlation between psychological well-being and self-esteem. It was also found that there was significant association between psychological well-being and gender ($p<0.034$) and there was no significant association between self-esteem and other socio demographic variables.[12]

This study has few limitations. The study can be done in various settings and with various people. The study can be conducted to all people irrespective of gender.

CONCLUSION

The study enlightened the importance of well-being of one of the vulnerable population in the community. The female sanitary workers often face significant psychological challenges due to their work environment and societal attitudes. Through this study, we came to know the demands and challenges of the female sanitary workers which is not only essential for the individual health but also for the broader community's well-being and productivity. Overall, improving the psychological well-being and self-esteem of female sanitary workers requires a multifaceted approach that addresses workplace conditions, provides emotional and social support and work towards changing societal attitudes.

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