

# Awareness and Involvement of the Arts, Commerce and Science College Teachers in Students' Mental Health and Behavioural Problems: A Cross-sectional Study from Sangli District (MH), India

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## ABSTRACT

**Background:** Teachers play an important role in reducing adolescent health problems. However, the involvement of teachers in adolescent health is not well understood. This current study was conducted to address this. **Methods:** A cross-sectional study was conducted among teachers of randomly selected arts, commerce and science colleges in Sangli, (Maharashtra) India. The data was collected by cluster random sampling. The study period was from November 2014 to April 2015. The study tool was self-administered questionnaire. Due ethical considerations, consents were taken. Analysis was done using Microsoft Excel 2003 and IBM SPSS version 22. **Results:** Out of 319 study participants; 246 (77.1%) participants had good awareness regarding adolescent health problems, 254 (79.6%) participants had good attitude towards reproductive health. Forty-three (13.5%), 22 (6.9%) and 15 (4.7%) participants had good practices regarding behavioural problems, psychological problems and substance abuse respectively. Practices about behavioural problems and substance abuse were associated with adolescent health training. In bi-variate analysis, age was a significant predictor for all the three practices. **Conclusion:** Most teachers had good attitude and awareness; but poor knowledge and practices regarding adolescent issues. All teachers should undergo training regarding adolescent health; with periodic refresher courses or lectures. Anonymous feedback from students should be sought to keep vigilance over efforts of the teachers.

**Keywords:** Adolescent, Adolescent Psychology, Behaviour, Faculty.

## INTRODUCTION

World Health Organisation (WHO) defines adolescence phase from 10 to 19 years of age.<sup>1</sup> The onset of puberty has long been accepted as the starting point of adolescence, and key social-role transitions such as completion of education, employment, marriage, and childrearing historically signalled the end.<sup>2</sup> Puberty triggers emotional, cognitive, and behavioural changes which may result in increased mortality and morbidity from accidental and intentional injuries, suicide and mental disorders, substance abuse, and eating disorders in young people.<sup>3</sup> Out of the estimated

global adolescent population of 1.2 billion, India is largest contributor with 243 million adolescents.<sup>4,5</sup> This impresses the need of proper nurturing of adolescents.

Adolescent health is a much younger discipline by comparison to Paediatrics. The problem of deficit in specialized medical care and due attention of policy makers regarding adolescent health is further escalated due to lack of health seeking behaviour; especially mental health.<sup>6,7</sup> The problem is acute in developing countries, where even adult mental health-seeking is poor.<sup>8,9</sup>

Teachers can play an important role as a source of knowledge, counsellor and aid in developing proper attitude among adolescents. It has been said that strong student-teacher engagement results in reduced substance abuse, and behavioural problems.<sup>2</sup> They can also help in early suspicion of a health problem and referral. But teachers need to know the signs and symptoms about various adolescent problems, so that they can help students.<sup>4</sup>

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But the research as well as efforts regarding incorporating active involvement of teachers in the field of adolescent health is negligible and so is the knowledge of teachers regarding adolescent health.<sup>10</sup> The situation worsens in the colleges. This study was planned to look into awareness and involvement in the adolescent health of the graduation college teachers belonging to the Sangli district, Maharashtra.

## METHODS

This is a cross-sectional study. The study area was arts, commerce and science degree (graduation) colleges from the Sangli District, (Maharashtra) India; with reference population of teachers from these colleges. Sample size based on results of pilot study was 265 (p of awareness = 79%, error 5%). The study period was six months, from November 2014 to April 2015.

For the study, twelve arts, commerce, science degree (graduation) colleges were randomly selected out of total pool of 52 colleges. The data was collected by cluster random sampling technique. Teachers who refused consent or those who were not comfortable with English questionnaire were excluded from the study.

After the study proposal was scrutinized and approved by the Scientific Research Review committee and Institutional Ethical Committee; written permission was acquired from the head of the selected institutes. Written informed consent was acquired from every participant.

The study tools were self-administered. Pre-tested questionnaire based on published literature was developed with the help of specialists from the field and experienced faculty.<sup>11-14</sup> A pilot study was conducted, and the questionnaire was modified and finalized based on the pilot study.

The questionnaire had eight sections based on the outcome expected. Section 1 consisted of socio-demographic variables along with information regarding their experience and training in adolescent health. Section 2 had a list of various psychological, behavioural and other health problems and participants were requested to identify which were commonly present in the adolescents. This section was developed to assess the awareness of the teachers regarding adolescent health problems. Section 3 was regarding the attitude of teachers towards adolescent reproductive health. Section 4 had questions regarding symptoms of various mental health problems based on DSM-IV criteria, to assess the knowledge about psychological problems.<sup>11</sup>

This section, being knowledge score was examined for reliability. It had good internal consistency (Cronbach's  $\alpha$ ,  $r = 0.72$ ). Section 5 had questions

regarding identification of signs of various substance abuse. Section 6, 7 and 8 were regarding practices undertaken by the teachers if they identify students with psychological, substance abuse and behavioural problem respectively.

For section 2 to 8, desirable or correct answers were predefined. All correct answers were given a score of 1 and undesirable or wrong answers were given a score of 0. Total score for each section was calculated separately. After consultation with field experts, it was decided to consider the score of  $\leq 50\%$  as "poor" score in that particular section and score of  $> 50\%$  to be "good" score. All subsections were individually examined for test-retest reliability and they were satisfactorily reliable.

After the requisite permissions, teachers were contacted in the staff room. After ensuring voluntary participation, informed consent, adequate privacy and appropriate pre-counselling; questionnaires were given to them. All questionnaires were collected in a drop-box. Incomplete questionnaires were not included in the final analysis.

Analysis was done using Microsoft Excel 2003 and IBM SPSS-22. Percentage, chi-square test and regression were used in the analysis. Data from the pilot study was not included in the final analysis.

## RESULTS

Out of the 347 questionnaires collected from the study participants, 319 were completely filled and hence included in the analysis. One hundred and thirteen i.e. 35.4% participants were females and 206 (64.6%) were males. The youngest participants were at the age of 23 years while the eldest were of 60 years. The mean age of participants was 40.5 years (standard deviation 10.6 years); and median of age was 40 years. (Figure 1)

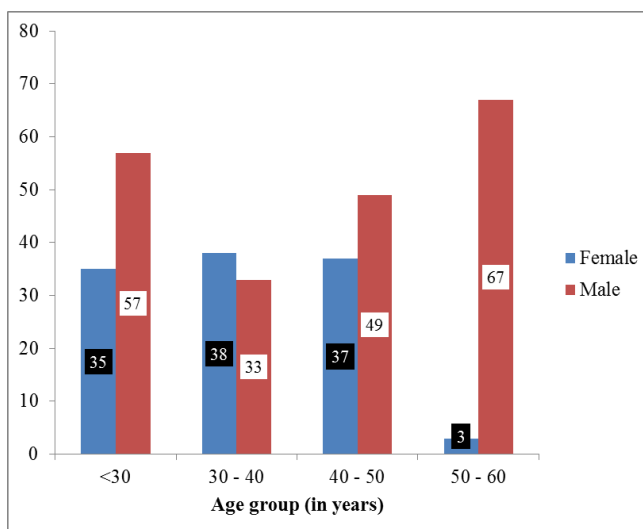


Figure 1: Age and sex distribution of teachers

Considering the designation of the study participants, 197 (61.8%) were tutors or lecturers, 122 (38.2%) were associate professors or professors.

The mean experience of teaching was 15.1 years (standard deviation 10.1 years). On dividing the participants in different teaching experience groups, 78 (24.5%) and 241 (75.5%) belonged to

groups of  $\leq 5$  years and  $> 5$  years respectively. Only 90 (28.2 %) participants had undergone some training or workshop regarding adolescent health; all of them had received such training only once.

**Table I:** Association of awareness regarding adolescent health problems and attitude towards reproductive health with various socio-demographic variables

Variables		Awareness regarding adolescent health problems		Attitude towards reproductive health		Total
		Poor	Good	Poor	Good	
Age group (in years)	$\leq 40$	31	132	29	134	163
		19%	81%	17.8%	82.2%	100%
	$> 40$	42	114	36	120	156
		26.9%	73.1%	23.1%	76.9%	100%
Chi-square= 2.822, p = 0.093				Chi-square= 1.373, p = 0.241		
Gender	Female	15	98	26	87	113
		13.3%	86.7%	23.0%	77.0%	100%
	Male	58	148	39	167	206
		28.2%	71.8%	18.9%	81.1%	100%
Chi-square = 9.157, p = 0.002.				Chi-square= 0.748, p = 0.387.		
Designation	Tutor/ Lecturer	41	156	35	162	197
		20.8%	79.2%	17.8%	82.2%	100%
	Associate Professor / Professor	32	90	30	92	122
		26.2%	73.8%	24.6%	75.4%	100%
Chi-square = 1.253, p = 0.263.				Chi-square = 2.162, p = 0.141.		
Adolescent Health training	No	53	176	50	179	229
		23.1%	76.9%	21.8%	78.2%	100%
	Yes	20	70	15	75	90
		22.2%	77.8%	16.7%	83.3%	100%
Chi-square = 0.031, p = 0.86.				Chi-square = 1.063, p = 0.302.		
Experience	$\leq 5$ yrs	14	64	11	67	78
		17.9%	82.1%	14.1%	85.9%	100%
	$> 5$ yrs	59	182	54	187	241
		24.5%	75.5%	22.4%	77.6%	100%
Chi-square = 1.425, p = 0.233.				Chi-square = 2.505, p = 0.114.		
Total		73	246	65	254	319
		22.9%	77.1%	20.4%	79.6%	100%

Seventy one (22.3%) participants had discussed pubertal issues with the students and 113 (35.4%) participants had discussed issue like HIV in their classrooms. Regarding issue of orientation of college students towards reproductive health through curriculum, 230 (72.1%) teachers were in favour and 213 (66.8%) were ready to advice students regarding contraceptives.

Two hundred twenty three (69.9%) teachers ready for health training; while 271 (85%) were in favour of induction of health cell in the college.

Knowledge about psychological problems was associated with adolescent health training. More than 40% participants who had undergone adolescent health training had good knowledge as compared to less than 30% participants who never had adolescent health training. However, this was not associated with gender, age, designation and experience. Knowledge about substance abuse was associated with designation; tutors and lecturers had better knowledge as compared to associate professors and professors. However, it was not associated with gender, age, experience or adolescent health training. (Table II)

**Table II:** Association of knowledge about psychological problems and substance abuse with various socio-demographic variables.

Variables		Knowledge about				Total
		Psychological problems		Substance abuse		
		Poor	Good	Poor	Good	
Gender	Female	71	42	104	9	113
		62.8%	37.2%	92%	8%	100%
	Male	144	62	184	22	206
		69.9%	30.1%	89.3%	10.7%	100%
		Chi-square=1.66, p= 0.20		Chi-square=0.613, p= 0.43		
Age	≤40	116	47	144	19	163
		71.2%	28.8%	88.3%	11.7%	100%
	>40	99	57	144	12	156
		63.5%	36.5%	92.3%	7.7%	100%
		Chi-square=2.15, p= 0.14		Chi-square =1.43, p= 0.23		
Designation	Tutor/ Lecturer	132	65	172	25	40
		67.0%	33.0%	87.3%	12.7%	100%
	Associate Professor/ Professor	83	39	116	6	157
		68.0%	32.0%	95.1%	4.9%	100%
		Chi-square=0.36, p= 0.85		Chi-square=5.19, p= 0.02		
Experience	≤ 5 yrs	56	22	68	10	78
		71.8%	28.2%	87.2%	12.8%	100%
	> 5 yrs	159	82	220	21	241
		66%	34%	91.3%	8.7%	100%
		Chi-square=0.91, p= 0.34		Chi-square =1.13, p= 0.29		
Adolescent Health training	No	162	67	210	19	229
		70.7%	29.3%	91.7%	8.3%	100%
	Yes	53	37	78	12	90
		58.9%	41.1%	86.7%	13.3%	100%
		Chi-square=4.13, p= 0.04		Chi-square =1.87, p= 0.17		
Total		215	104	288	31	319
		67.4%	32.6%	90.3%	9.7%	100%

Practices regarding psychological problems were associated with experience. Higher percentage of participants having experience less than five years had good practices regarding psychological problems as compared to those who have more experience.

However, it was not associated with gender, age, designation or adolescent health training. While practices regarding behavioural problems were

associated with gender with more females exhibiting good practices as compared to males.

Similarly, practices about behavioural problems and substance abuse were associated with adolescent health training; higher percentage of participants with training had good practices as compared to others. (Table III)

**Table III:** Association of practices regarding psychological problems, substance abuse and behavioural problems with various socio-demographic variables.

Variables		Practices regarding						Total
		Psychological problems		Substance abuse		Behavioural problems		
		Poor	Good	Poor	Good	Poor	Good	
Gender	Female	104	9	110	3	89	24	113
		92%	8%	97.3%	2.7%	78.8%	21.2%	100%
	Male	193	13	194	12	187	19	206
		93.7%	6.3%	94.2%	5.8%	90.8%	9.2%	100%
		Chi-square=0.31, p=0.58		Chi-square=1.64, p=0.20		Chi-square=9.03, p=0.003		
Age	≤ 40	153	10	157	6	138	25	163
		93.9%	6.1%	96.3%	3.7%	84.7%	15.3%	100%
	>40	144	12	147	9	138	18	156
		92.3%	7.7%	94.2%	5.8%	88.5%	11.5%	100%
		Chi-square=0.30, p=0.58		Chi-square=0.78, p=0.38		Chi-square=0.99, p=0.32		
Designation	Tutor/ Lecturer	184	13	191	6	169	28	197
		93.4%	6.6%	97.0%	3.0%	85.8%	14.2%	100%
	Associate Professor/ Professor	113	9	113	9	107	15	122
		92.6%	7.4%	92.6%	7.4%	87.7%	12.3%	100%
		Chi-square=0.07, p=0.79		Chi-square=3.15, p=0.08		Chi-square=0.24, p=0.63		
Experience	≤ 5 yrs	68	10	72	6	63	15	78
		87.2%	12.8%	92.3%	7.7%	80.8%	19.2%	100%
	> 5 yrs	229	12	232	9	213	28	241
		95%	5%	96.3%	3.7%	88.4%	11.6%	100%
		Chi-square=5.64, p=0.018		Chi-square=2.06, p=0.15		Chi-square=2.93, p=0.09		
Adolescent Health training	No	213	16	226	3	214	15	229
		93.0%	7.0%	98.7%	1.3%	93.4%	6.6%	100%
	Yes	84	6	78	12	62	28	90
		93.3%	6.7%	86.7%	13.3%	68.9%	31.1%	100%
		Chi-square=0.01, p=0.92		Chi-square=20.8, p=0.00		Chi-square=33.4, p=0.00		
Total		297	22	304	15	276	43	319
		93.1%	6.9%	95.3%	4.7%	86.5%	13.5%	100%

There was no statistical association between practices regarding psychological problems and substance abuse with their respective knowledge. Similarly, awareness regarding adolescent health problems was not associated with these practices.

Using SPSS 22, binary logistic regression models were made by Wald's backward method to find best predictors for attitude towards reproductive health and practices regarding psychological problems, substance abuse and behavioural problems.

Chance accuracy rate for all the models was greater than calculated accuracy rate. Experience was predictor for attitude towards reproductive health and practices regarding psychological problems and substance abuse; while age was a predictor for all the three practices. Knowledge regarding substance abuse was a predictor for its respective practices. (Table IV)

Table IV: Binary logistic regression models-association of age, gender, experience, adolescent health training and respective knowledge with Attitude towards reproductive health and practices regarding Psychological problems, Substance abuse and Behavioural problems.

Independent factor	B	S.E.	Wald	d.f	P value	OR	95% CI for OR	
							Lower	Upper
Model 1: Dependent factor = Attitude towards reproductive health; model accuracy = 79.6%.								
Gender	-.439	.303	2.096	1	.148	.645	.356	1.168
Experience	-.032	.015	4.742	1	.029	.969	.941	.997
Constant	2.03	.333	37.142	1	.000	7.633		
Model 2: Dependent factor = Practices regarding psychological problems; model accuracy = 99%.								
Age	.383	.174	4.841	1	.028	1.467	1.043	2.064
Experience	-.288	.147	3.844	1	.050	.749	.562	1.000
Constant	-16.91	6.347	7.099	1	.008	.000		
Model 3: Dependent factor = Practices regarding substance abuse; model accuracy = 98.1%.								
Age	.268	.120	5.022	1	.025	1.308	1.034	1.654
Experience	-.322	.137	5.522	1	.019	.725	.554	.948
Knowledge regarding substance abuse	2.682	.967	7.695	1	.006	14.610	2.197	97.178
Constant	-13.76	4.151	10.988	1	.001	.000		
Model 4: Dependent factor = Practices regarding behavioural problems; model accuracy = 90.8%.								
Age	-.107	.027	15.375	1	.000	.899	.852	.948
Constant	1.53	.904	2.866	1	.090	4.620		
B= Regression coefficient, SE=Standard error, OR=Odds ratio, CI=Confidence interval								

By applying Spearman's rank correlation; practices regarding psychological problems and behavioural problems had a positive moderate correlation ( $p < 0.05$ ) with attitude towards reproductive health. Practices regarding psychological problems and substance abuse also had a positive moderate correlation with practices regarding behavioural problems ( $p < 0.05$ ).

## DISCUSSION

We observed that majority of teachers had awareness regarding adolescent health problems and a positive attitude towards reproductive health. Briggs LA observed that only 48.3% teachers from Nigeria advocates sex education program in the curriculum.<sup>15</sup> In a study conducted in Nigeria by Orji and Esimai,<sup>16</sup> it was observed that 90% teachers were in favour of inclusion of sex education program in curriculum. Aniebue PN observed that 94% of teachers from Enugu were positive towards such inclusion.<sup>17</sup> In the current study, 72% of teachers were in favour of orientation of students to reproductive health education. This proportion although lower that observed by Orji *et al.* and Aniebue, but still very high as compared to that observed by Briggs. The socio-cultural differences may be responsible for wide range of differences in observations regarding the issue.

Briggs observed that only 20.8% teachers were in favour of advising students about contraceptives.<sup>15</sup> While we observed that, 66.8% teachers were in favour. The differences can be due cultural variation as well as higher age group of students tutored by the teachers in our study.

Nair *et al.*, observed that 40.9% school teachers from Thiruvanthapuram had actually discussed aspects growth with adolescents.<sup>18</sup> While we observed that only 22.5% teachers had such discussion, however our study participants were college teachers. The students being already in the late adolescents may not seek help regarding pubertal issue from teachers.

The communication with students was lacking, with less than quarter of teachers ever been approached by students regarding health queries, while only 36% of them had discussed issues like HIV and STD with students.

Most of the teachers had poor knowledge regarding the mental health and substance abuse. Age, gender and experience had no effect on the knowledge. Teachers who had some training previously were better; but overall knowledge level was poor. Training received by the teachers was not compulsory and refresher training was never

conducted. There is no system in India to actually test the knowledge of teachers regarding such subjects.

The practices of the majority of teachers regarding mental health problems, substance abuse and behavioural problems were poor. Adolescent health training helped in development of better practices regarding adolescent health, among the teachers. Younger teachers fared better in practices.

It seems that teachers who have been through this phase recently were more sympathetic and involved. Female teachers had better practices regarding behavioural problems; which may be due to higher acceptances of males towards such behaviour.

During the course of data collection, some of the teachers had discussed their own habit of substance abuse. Many of such teachers were unable to advise the students against substance abuse due to feeling of guilt or not wanting to sound hypocritical.

#### Limitations of the study

The study is based on self-addressed questionnaires, hence reporting bias cannot be completely eliminated. There may be over estimation of positive attitude and good practices. There is no mechanism to confirm the findings.

#### CONCLUSION

Majority of teacher had good attitude and awareness regarding various adolescent issues. But the knowledge and practices regarding such issue were underwhelming. Communication of teachers with students was poor. Health training had positive impact on the practices of some adolescent issues; however total teachers receiving the training was low. Similar overall practices were better in younger staff.

It is recommended that, all the teachers must undergo training regarding adolescent health; with periodic refresher courses or lectures. They should be taught to identify symptoms of psychological health problems and substance abuse. Efforts should be made to develop positive attitude and sense of responsibility towards adolescent health in the teachers. They should be encouraged to discuss issues like contraception, STD/HIV with their students.

Active efforts to bridge the communication gap between teachers and students should be taken. Anonymous feedback from students should be sought to keep vigilance over efforts of teachers to communicate with students. Teachers with problem of substance abuse should be identified and encouraged to undergo de-addiction programme, to set a proper example among students.

#### Conflicts of Interest

None to declare.

#### Authors' contribution

All authors contributed to conception and design and drafting the manuscript. VBW and MSC contributed to development of research tool and procedure. VBW and ADG acquired and analyzed the data. VBW, ADG and GBD contributed to interpretation of data. All authors have read and approved the final manuscript.

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