



# Novel Corona Virus Awareness And Symptomatic Psychological Behavior Among Adolescents

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## Abstract

In India, awareness programs related to health are conducted from time to time by various government agencies for adolescents. Under these programs, awareness related to mental health and epidemics like COVID-19 are also important. In context of that, concurrent assessment regarding the awareness of novel corona virus (NCV) and symptomatic psychological behavior (SPB) among adolescents age group are much needed. The present study aims to evaluate the concurrent status of level of awareness of NCV and SPB and compare it with male and female adolescents. The novel corona virus awareness scale and MMPI-A were used to assess the level of awareness about NCV and SPB among adolescents. Total sixty-seven (67) adolescents participated in this study in which only sixty (60) adolescents were included for this study who had valid profile on MMPI-A. The result of the study revealed that there was a medium level of awareness regarding NCV and have been seen remarkable SPB among adolescents. There were significant gender differences among adolescents in respect of level of awareness of NCV and in some contents of MMPI-A. Therefore, the result of the present study concluded that awareness related to mental health and NCV needs to be increased among adolescents in current scenario.

**Keywords:** Adolescents, Novel Corona Virus Awareness, Symptomatic Psychological Behavior.

## Introduction:

Adolescents are young people who are in the stage of life span between childhood to adulthood in which they remarkably marked by rapid physical as well as psycho-social changes and growth. This critical period develops numerous habits and psycho-social behaviour such as relationships, friendship, social interaction, academic career awareness, diet, exercise, mutual understanding, rituals, self-respect, substance use, mental health practices etc., which can affect their lifelong well-being. As we know, COVID-19 era influences public mental health emergency worldwide and emerges symptomatic psychological behaviour (SPB) among various groups of population. The adolescents, who were one of the youngest population groups which had major concern to protect from NCV situations as well as to restrict to develop from any impactful SPB. In that pandemic period, subsequent lacking of awareness about NCV and remarkable SPB have been seen among adolescents age group of people such as anxiety, stress, fear of infection, academic pressure, feeling of sadness, hopelessness, loss of interest, loneliness, irritability, anger, frustration, sleep disturbances,

poor concentration etc., all these issues increase the importance of awareness towards NCV and SPB. In context of COVID-19 like pandemic, adolescent's awareness is very essential because they are eagerly active in schools, communities, social media etc., where any type of rumours or messages spreads quickly. Awareness about novel corona virus, plays a crucial role in helping adolescents understand the nature, transmission and prevention of the virus. Through proper information from school, media and health authorities, young people can learn how to protect themselves and others by following safety measures such as wearing masks, maintaining hygiene and practicing social distancing. Therefore, providing accurate awareness about NCV and mental health services paves the way for adolescents to protect themselves as well as their families and concerned communities. It is clear from this that having accurate information related to the novel corona virus has a wide impact on the person psycho-socially. In current scenario, assessment of the level of awareness about NCV and the SPB among adolescents are very important because it explore the impact of the strategies followed by the academician, counsellors, clinician, government and non-government institutions so, it is necessary to find out the concurrent awareness level of NCV and existing SPB among adolescents age group which will help many professionals. Therefore, this study focused to analyze the concurrent level of awareness about NCV and the SPB among adolescents of Hazaribag district of Jharkhand.

### **Aim & Objectives:**

The aim of the present study was to assess and evaluate the concurrent level of awareness of novel corona virus and symptomatic psychological behavior among adolescents with the help of novel corona virus awareness scale and content scale of MMPI-A.

### **Objectives of the Study:**

- i) To find out the concurrent level of awareness of novel corona virus and symptomatic psychological behavior among adolescents.
- ii) To compare between male and female adolescents on the basis of awareness of novel corona virus and symptomatic psychological behavior.
- iii) To know the impact of gender on awareness of novel corona virus and symptomatic psychological behavior.

### **Methods:**

#### **Participants:**

The sources of the data collection were taken from school setting of hazaribag district of Jharkhand state of India. Total 67 adolescents were participated randomly in the present study. Out of sixty-seven (67) adolescents, only sixty (60) participants were included for this study who had valid profile on MMPI-A. Out of 60 participants, 29 were male and 31 adolescents were female for the evaluation of the present study.

#### **Measures:**

- i) Socio-demographic & Personal Data Sheet: This data sheet was used to contain about details of adolescent's information such as school setting, age, sex, schooling standard etc.
- ii) Novel Corona Virus Awareness Scale (NCVAS): This scale was used to assess the level of awareness of novel corona virus of the participants. It is developed by Dr. Sadique Razaque in 2020<sup>1</sup>. There

are 20 items related to novel corona virus awareness. Each items have four alternatives in which one (1) mark is allotted for every correct alternative. There are three level of awareness categories to determine the level of novel corona virus awareness i.e. low, medium and high level of awareness. This scale is applicable with matriculation standard or above academic qualification. The reliability of this scale is  $KR_{20}=0.81$ , which is fairly high.

iii) Content Scale of MMPI-A: This inventory was applied to measure the symptomatic psychological behavior among adolescents. This inventory was developed by Butcher et al. (1992)<sup>2</sup>. This inventory has 478 items to respond either true or false. This inventory of content scale has 15 items to measure psychological behavior of adolescents such as anxiety, obsessiveness, depression, health concern, alienation, bizarre mentation, anger, cynicism, conduct problems, low self-esteem, low aspiration, social discomfort, family problems, school problems and negative treatment indicators. This content scale has mean test-retest reliability with a mean of 0.72 and internal consistency with a mean of 0.74.

### Result:

The result of the study evaluated with 60 participants of adolescents on the measures of awareness of novel corona virus (NCV) and symptomatic psychological behavior (SPB). The mean age of the adolescents was  $15.15 \pm 1.16$  years in male and  $14.90 \pm 1.70$  years in female. According to the objectives of the study, measures of awareness of NCV and SPB have been explored among adolescents on the basis of findings on novel corona virus awareness scale<sup>1</sup> and content scale of MMPI-A<sup>2</sup>.

**Table-1:** *Adolescent's Mean Scores on Novel Corona Virus Awareness Scale (NCVAS)*

Mean Scores on Novel Corona Virus Scale	Level of Awareness of Novel Corona Virus (NCV)
$12.99 \pm 2.28$	Medium Level of Awareness

Table-1, 2 & 3 depicts the findings of first objective of this study. Result table-1 shows, average raw scores ( $12.99 \pm 2.28$ ) on NCVAS which indicates medium level of awareness about NCV among adolescents. Result table-2 showing mean score and uniform T score according to present study and standard mean score according to content scale of MMPI-A of male adolescents. The following symptomatic psychological behavior have been found higher scores than standard mean scores according to content scale of MMPI-A in male adolescents such as anxiety ( $8.15 \pm 2.47$ ), depression ( $8.44 \pm 2.13$ ), health concern ( $9.56 \pm 3.21$ ), alienation ( $8.10 \pm 3.10$ ), bizarre mentation ( $5.21 \pm 3.42$ ), low self-esteem ( $7.56 \pm 3.26$ ), social discomfort ( $10.98 \pm 3.63$ ), negative treatment indicators ( $9.89 \pm 2.98$ ). However, male adolescents have below uniform T-scores ( $\leq 55$ ) which indicates not fulfilling significant diagnostic criteria towards mental illness according to content scale of MMPI-A. Result table-3 showing mean score and uniform T score according to present study and standard mean score according to content scale of MMPI-A of female adolescents.

**Table-2:** *Mean Score and Uniform T Scores on the basis of findings and Standard Mean Score according to Content Scale of MMPI-A of Male Adolescents*

Symptomatic Psychological Items of Content Scale of MMPI	Mean Scores on Content Scale of MMPI-A	Standard Mean Scores According to Content Scale of MMPI-A	Uniform T Score According to Content Scale of MMPI-A
Anxiety (A-anx)	8.15 ± 2.47	7.84 ± 4.09	49
Obsessiveness (A-obs)	6.09 ± 2.63	6.91 ± 3.32	46
Depression (A-dep)	8.44 ± 2.13	7.59 ± 4.57	51
Health Concern (A-hea)	9.56 ± 3.21	7.88 ± 5.31	52
Alienation (A-aln)	8.10 ± 3.10	5.95 ± 3.36	54
Bizarre Mentation (A-biz)	5.21 ± 3.42	4.00 ± 3.13	53
Anger (A-ang)	7.85 ± 2.89	7.94 ± 3.23	46
Cynicism (A-cyn)	11.15 ± 2.63	12.36 ± 4.51	45
Conduct Problems (A-con)	9.00 ± 3.01	9.62 ± 4.03	47
Low Self-esteem (A-lse)	7.56 ± 3.26	5.00 ± 3.21	54
Low Asportations (A-las)	5.46 ± 1.38	5.85 ± 2.63	46
Social Discomfort (A-sod)	10.98 ± 3.63	8.33 ± 4.36	53
Family Problems (A-fam)	10.86 ± 3.58	11.37 ± 5.62	47
School Problems (A-sch)	5.00 ± 2.32	6.32 ± 3.37	46
Negative treatment indicators (A-trt)	9.89 ± 2.98	9.11 ± 4.21	48

The following symptomatic psychological behavior have been found higher scores than standard mean scores according to content scale of MMPI-A in female adolescents such as health concern (12.85 ± 3.81), alienation (7.24 ± 3.25), bizarre mentation (5.88 ± 2.98), cynicism (12.98 ± 1.86) self-esteem (6.67 ± 2.36), social discomfort (8.10 ± 2.35), school problems (6.01 ± 2.68), negative treatment indicators (10.93 ± 2.66).

**Table-3:** *Mean Score and Uniform T Scores on the basis of findings and Standard Mean Score according to Content Scale of MMPI-A of Female Adolescents*

Symptomatic Psychological Items of Content Scale of MMPI	Mean Scores on Content Scale of MMPI-A	Standard Mean Scores According to Content Scale of MMPI-A	Uniform T Score According to Content Scale of MMPI-A
Anxiety (A-anx)	8.98 ± 2.87	9.03 ± 4.40	47
Obsessiveness (A-obs)	6.85 ± 1.72	7.88 ± 3.23	43
Depression (A-dep)	8.18 ± 2.52	9.17 ± 5.08	48
Health Concern (A-hea)	12.85 ± 3.81	9.03 ± 5.53	55
Alienation (A-aln)	7.24 ± 3.25	5.62 ± 3.49	53
Bizarre Mentation (A-biz)	5.88 ± 2.98	4.05 ± 3.09	53
Anger (A-ang)	8.00 ± 3.65	8.51 ± 3.09	46
Cynicism (A-cyn)	12.98 ± 1.86	12.34 ± 4.72	46
Conduct Problems (A-con)	8.10 ± 3.29	8.15 ± 3.85	49
Low Self-esteem (A-lse)	6.67 ± 2.36	5.83 ± 3.46	50
Low Asportations (A-las)	5.85 ± 3.13	6.00 ± 2.72	45
Social Discomfort (A-sod)	8.10 ± 2.35	7.19 ± 4.31	51
Family Problems (A-fam)	11.88 ± 3.33	12.53 ± 5.67	46
School Problems (A-sch)	6.01 ± 2.68	5.83 ± 3.15	50
Negative treatment indicators (A-trt)	10.93 ± 2.66	9.30 ± 4.41	50

However, female adolescents also have below standard uniform T-scores ( $\leq 55$ ), that does not support significantly to diagnose as mental illness according to content scale of MMPI-A.

**Table-4: Comparison between Male and Female Adolescents on the basis of Mean Scores of Novel Corona Virus Scale (NCVS)**

Gender	Mean Scores on Novel Corona Virus Scale	t-test (df=58)
Male Adolescents	13.80 ± 2.41	2.493*
Female Adolescents	12.18 ± 2.15	

\* $<.05$ ; \*\* $<.01$ ; NS=Not Significant

According to the second objectives of the study, Table-4 & 5 depicts comparison between male and female adolescents on the basis of findings of novel corona virus scale (NCVS)<sup>1</sup> and content scale of MMPI-A<sup>2</sup>. On the basis of findings on NCVS, result table-4 reflects significant difference between male and female adolescents at .05 level ( $t=2.493$ ), in which male scored higher ( $13.80 \pm 2.41$ ) than female adolescents ( $12.18 \pm 2.15$ ). This result further shows that male had better level of awareness than female participants towards novel corona virus. On the basis of findings on content scale of MMPI-A, result table-5 reflects significant difference in the following symptomatic psychological behavior such as anxiety ( $<.05$ ,  $t=2.417$ ), obsessiveness ( $<.05$ ,  $t=2.125$ ), health concern ( $<.01$ ,  $t=8.523$ ), cynicism ( $<.01$ ,  $t=5.537$ ), conduct problems ( $<.05$ ,  $t=2.012$ ), low self-esteem ( $<.05$ ,  $t=2.332$ ), social discomfort ( $<.01$ ,  $t=6.467$ ), school problems ( $<.05$ ,  $t=2.168$ ) and, negative treatment indicators ( $<.05$ ,  $t=2.168$ ).

**Table-5: Comparison between Male and Female Adolescents on the basis of Mean Scores on Content Scale of MMPI**

Symptomatic Psychological Behavior (SPB) of Content Scale of MMPI	Male Adolescents (N=29)	Female Adolescents (N=31)	t-test (df=58)
Anxiety (A-anx)	8.15 ± 2.47	8.98 ± 2.87	2.417*
Obsessiveness (A-obs)	6.09 ± 2.63	6.85 ± 1.72	2.125*
Depression (A-dep)	8.44 ± 2.13	8.18 ± 2.52	1.899 <sup>NS</sup>
Health Concern (A-hea)	9.56 ± 3.21	12.85 ± 3.81	8.523**
Alienation (A-aln)	8.10 ± 3.10	7.24 ± 3.25	1.842 <sup>NS</sup>
Bizarre Mentation (A-biz)	5.21 ± 3.42	5.88 ± 2.98	2.000 <sup>NS</sup>
Anger (A-ang)	7.85 ± 2.89	8.00 ± 3.65	1.561 <sup>NS</sup>
Cynicism (A-cyn)	11.15 ± 2.63	12.98 ± 1.86	5.537**
Conduct Problems (A-con)	9.00 ± 3.01	8.10 ± 3.29	2.012*
Low Self-esteem (A-lse)	7.56 ± 3.26	6.67 ± 2.36	2.332*
Low Aspirations (A-las)	5.46 ± 1.38	5.85 ± 3.13	0.596 <sup>NS</sup>
Social Discomfort (A-sod)	10.98 ± 3.63	8.10 ± 2.35	6.467**
Family Problems (A-fam)	10.86 ± 3.58	11.88 ± 3.33	2.600**
School Problems (A-sch)	5.00 ± 2.32	6.01 ± 2.68	2.168*
Negative treatment indicators (A-trt)	9.89 ± 2.98	10.93 ± 2.66	2.312*

\* $<.05$ ; \*\* $<.01$ ; NS=Not Significant

The result further reflects that female had significantly higher scores on anxiety ( $8.98 \pm 2.87$ ), obsessiveness ( $6.85 \pm 1.72$ ), health concern ( $12.85 \pm 3.81$ ), cynicism ( $12.98 \pm 1.86$ ), family problems ( $11.88 \pm 3.33$ ), school problems ( $6.01 \pm 2.68$ ) and negative treatment indicators ( $10.93 \pm 2.66$ ) than male adolescents ( $8.15 \pm 2.47$ ,  $6.09 \pm 2.63$ ,  $9.56 \pm 3.21$ ,  $11.15 \pm 2.63$ ,  $10.86 \pm 3.58$ ,  $5.00 \pm 2.32$ ,  $9.89 \pm 2.98$ ) however, male had significantly higher scores on conduct problems ( $9.00 \pm 3.01$ ), low self-esteem ( $7.56 \pm 3.26$ ) and social discomfort ( $10.98 \pm 3.63$ ) than female adolescents ( $8.10 \pm 3.29$ ,  $6.67 \pm 2.36$ ,  $8.10 \pm 2.35$ ). There was no significant difference in in content scale of MMPI-A such as depression, alienation, bizarre mentation, anger



and low aspiration between male and female adolescents. This result further indicates that, gender impact has seen in some contents of MMPI-A as particular symptomatic psychological behaviour.

## Discussion:

The population of adolescents in India is around more than 253 million. The government of India recognizes the value of adolescents and taking lots of initiatives for their betterment. Apart from many qualitative consequences, adolescents age group is still susceptible toward varieties of challenges like, nutritional deficiencies, physical health, acceptance of existence of mental health etc. In context of that, awareness of novel corona virus (NCV) as health concerns and existing symptomatic psychological behavior (SPB) as mental health concern are the main enlightenment of the present study. COVID-19 like communicable disease has been severe threat for the individual's physical or mental health either who working or non-working people in any sector. World health organization (2024)<sup>3</sup> quoted that; this pandemic caused 775 million people and 7 million deaths worldwide. So, having the mis-information or lacking the knowledge regarding the level of awareness of NCV and SPB, the present study conducted to know the concurrent status of awareness of NCV and SPB among adolescents. Out of sixty-seven (67) participants, only sixty (60) sample evaluated for this study according to validity of the adolescent's MMPI-A profile with sample of school setting of Hazaribag district of Jharkhand. Participant's average age was  $15.15 \pm 1.16$  years in male and  $14.90 \pm 1.70$  years in female. According to the novel corona virus scale<sup>1</sup>, the findings of the present study revealed medium range of raw score ( $12.99 \pm 2.28$ ) which suggest medium level of awareness about NCV among adolescents. This result further shows that adolescents have some initial knowledge about NCV but avoid to COVID-19 pandemic like situations, they have to increase their level of knowledge about NCV. Similarly, some of other findings also revealed that, participants have significant level of awareness regardless some areas regarding COVID-19 are still needs improvent<sup>4</sup>. Some other similar studies also stated that awareness of COVID-19 among adolescents have still in moderate level and they may improve their protective health behavior if they can increase the level of awareness<sup>5-8</sup>. However, some studies have contradictory opinion to the current findings like, study on medical students suggest that they have adequate level of awareness regarding NCV<sup>9</sup>, which might have due to medical background of the participants. Some literatures thoroughly highlighted having, gender differences in context of SPB and awareness level about NCV during and after the COVID-19 period. This study also replicates that, there was significant difference between male and female adolescents, in which male had higher level of awareness than female adolescents. On the basis of gender (male & female) like demographical variable some studies have been explored in respect to awareness of NCV and SPB<sup>10-12</sup>.

According to another objective of the study, in context of SPB, the common SPB like, health concern, alienation, bizarre mentation, low self-esteem, social discomfort and negative treatment indicators have been seen in both the of male and female adolescents. On the other hand, anxiety, depression in male and cynicism, school problems in female adolescents were present as additional SPB. However, both the male and female adolescents have all this behavior in light mode and, they do not reach to severity stage for completion of the diagnostic criteria due to having below range of T score of content scale of MMPI-A. The result further depicts that there was significant difference between male and female adolescents in respect of anxiety, obsessiveness,

health concern, cynicism, conduct problems, low self-esteem, social discomfort, school problems and negative treatment indicators in which female had higher SPB such as anxiety, obsessiveness, health concern, cynicism, family problems, school problems and negative treatment indicators than male adolescents however, SPB like conduct problem, low self-esteem and social discomfort were higher in male than female adolescents. These findings have similarity with earlier studies in which researcher mentioned that adolescents have high level of impairment in context of psychosocial behavior<sup>13</sup>. The previous studies also supports that stress, anxiety, depressive, conduct behavior, emotional distress, alienation like behavior have been present within adolescents age group of people and differ it with gender in some studies<sup>14-23</sup>. Therefore, the results of the present study along with analysis of previous research studies show that it is still necessary to have clear information about the novel coronavirus and psychological symptoms among adolescents. This study also suggest that awareness level of NCV and existing SPB negatively impact each other. Some studies related to this have also done, in which it has been observed that awareness of NCV influence the prevalence of SPB as well as such behavior may also impact on awareness of NCV itself in terms of psychopathological indicators like depression, paranoid ideation etc<sup>24</sup>. Therefore, it is clear from the present study that, if the person is made aware in advance about the prevention related to corona virus like epidemic, as well as special discussion is held among the adolescents related to mental health, then one can be alert from the negative effects of all these and successful measures can also be taken for prevention. Similarly, it has been mentioned in earlier study that due to the awareness regarding the disease plays an important role in preventing the infectious behavior<sup>25</sup>. The study shows the level of awareness of NCV and existing SPB, in which it can be predicted that as the level of awareness about NCV increases, SPB may also be seen less. In context of that, relationship between novel corona virus epidemic and symptomatic psychological behaviour, most of the studies concluded that there was subsequent impact of COVID-19 on mental health of the individuals<sup>26</sup>.

### **Conclusion:**

Findings of the present study concluded that adolescents have medium level of awareness toward NCV and the health concerns, alienation, bizarre mentation, low self-esteem, social discomfort and negative treatment indicators were the common SPB on the other hand, anxiety, depression in male and cynicism, school problems in female were present as additional SPB however, these behavior quite less favorable to made a complete symptomatic diagnosis due to below range of T scores according to used inventory. Therefore, the present study further concluded that the existence of SPB and lack of information related to the NCV still persists among adolescents, for which along with psychological prevention, the awareness related to the novel corona virus will have to be further strengthened.

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