# Association between health-related quality of life and sense of coherence among health professionals working in primary health centers consuming tobacco in Jaipur, India

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## ABSTRACT

**Background:** Health-related quality of life (HRQOL) and senses of coherence (SoC) can be affected by the use of tobacco. Hence, the aim of the present study was to explore the association between HRQOL and SoC among health professionals working in primary health centers (PHCs) consuming Tobacco. **Materials and Methods:** It was a cross-sectional descriptive study where sampling technique used was systematic stratified random sampling. Jaipur District has 37 PHCs retrieved from site of NRHM Rajasthan. A close-ended questionnaire was prepared to conduct the interview. **Results:** Majority of study participants (57; 37.01%) were of 36–40 years of age. Males respondents (86; 55.85%) consuming tobacco were more in number than female respondents. Majority of study subjects (91; 59.09%) consumed smoked kind of tobacco, in which most contributed were nurses (49; 62.82%). On applying a linear regression model, it was determined that all subscale of SF-36 was significantly ($P \leq 0.000$) associated with SoC. **Conclusion:** From above, it was concluded that there was a strong association between HRQOL and SoC among health professionals working in primary health centers consuming tobacco.

**Keywords:** Health, health-related quality of life, sense of coherence, tobacco

## Introduction

Obvious proof has amassed in the last century on the deleterious effect of tobacco use on the human wellbeing. India is supposed to have a soaring burden of tobacco and associated morbidity and mortality. It has been assessed that out of all the individuals who smoke around the world, 16.6% live in India, an outright figure of 182 million.[1]

As per GATS 2 study in 2016-2017, the level of current tobacco smokers in Rajasthan was 13.2, which was higher than national normal 10.7%.[2]

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## Tobacco consumption and health-related quality of life

Health-related quality of life (HRQOL) is extensively characterized through the assessment of a few segments of everyday working and prosperity, for example, physical working; functioning in daily activities, like work and social activities; and psychological distress and well-being.[3] Various cross-sectional examinations have concentrated on the distinctions in HRQOL among smokers, non-smokers, and previous smokers.[4-7]

## Tobacco consumption and sense of coherence

Sense of Coherence (SoC) is an individual element in regards to convictions about world, oneself, and one's own relational connections. SoC is broadly acknowledged to be related with health-related general belief and plays a vital role in health improvement, protection, and recuperation. It spurs to deal with one's own health behaviors, for example, healthy diet, regular physical activity, or keeping away from dangerous practices like smoking.[8] Individuals with low SoC are increasingly inclined to respond to worry with smoking.[9]

## Connection between health-related quality of life and sense of coherence

SoC catches a person's view of life as being understandable, reasonable, and meaningful.[10] Studies[11,12] directed in diverse special groups state an encouraging and positive relationship between SoC and HRQOL. Its association with HRQOL is noteworthy among tobacco users which can be demonstrated from the explanation that individuals evaluating their HRQOL are identified with the individual's capacity to adapt to and deal with the difficulties that may accompany illness.[13]

The pervasiveness of tobacco use in rural territories is 32.5% higher than urban regions with 21.2% of smoking prevalence.[2] World Health Organization has called for smoking discontinuance to be coordinated into primary health care.[14] Primary Health Center (PHC) is the most widely recognized setting for the arrangement of tobacco suspension advice.[15] Also one of the studies[16] showed that the health care professionals themselves have the habit of continued use of tobacco at high rates.

As per the present study, health care providers ought to be prepared to improve their SoC which helps in stopping tobacco and upgrading their HRQOL. Also, in the past, no investigation was directed to investigate the relationship between HRQOL and SoC among primary health care workers consuming tobacco. Hence, the aim of the present study was to investigate relationship between HRQOL and SoC among health professionals working in primary health centers consuming tobacco.

## Materials and Methods

It was a cross-sectional descriptive study. The study area for this research was located within the Jaipur district, the capital of the North-Western Indian State of Rajasthan. The present study was carried out in randomly selected primary health care centers of Jaipur district of Rajasthan. Sampling technique was systematic stratified random sampling. Jaipur District has 37 PHCs retrieved from site of NRHM Rajasthan.[17] Ethical clearance to conduct the study was obtained from the University of Rajasthan, Jaipur, Rajasthan. Respondents present on the day of the survey and those who gave their written informed consent were included in the survey. Tools and techniques used in the study are given in Table 1.

A close-ended questionnaire was prepared which consists of 4th parts. 1st part consists of demographic details of the respondents. 2nd part consists of questions regarding form of tobacco, and tobacco dependence was measured by Fragestrom scale. 3rd part consists of SF-36 questionnaire for measuring HRQOL and 4th consists of questions for sense of Coherence questionnaire SOC-13. Pilot study was conducted prior to main survey on 10% of the study samples. Reliability of the questionnaire was assessed by using Test-Retest (0.87) and the values of measured Kappa (k) (0.76). Internal consistency of questionnaires was also assessed by applying Cronbach's alpha ($\alpha$) (0.74). Jaipur district was divided into 5 directions south, east, west, north, and central. From each direction, 5 PHCs were selected randomly and survey was conducted among health professionals working in these PHCs. A total of 154 respondents were interviewed which includes medical officer, nurse, and pharmacists.

### Data analysis

Data were analyzed using SPSS-20 (Statistical Package for the Social Sciences). Keeping in view the objectives as well as the design of the study, descriptive, inferential statistics were used for analysis of data. Demographic details and tobacco consumption history of study participants were determined using descriptive statistics. The association between HRQOL and SoC was determined using a linear regression model adjusted for gender, age group, socioeconomic status, designation, and marital status.

## Results

Table 2 shows that majority of study participants (57; 37.01%) were of 36–40 years of age. Males respondents (86; 55.85%) consuming tobacco were more in number than female

| Table 1: Tools and techniques of the study | |
|---|---|
| **Variables** | **Tools used** |
| Demographic tool | Oral health assessment form 2013 was used[18] |
| Socioeconomic status | District level household survey (DLHS-3) and Kupuswamy scale was used.[19] |
| Health-related quality of life | SF-36 Questionnaire was used.[20] |
| Sense of Coherence | SoC-13 Questionnaire was used.[21] |
| Tobacco consumption history | Lam *et al.*[22] |
| Tobacco addiction | Fragestrom scale was used.[23] |

respondents. Majority of tobacco consuming respondents (78; 50.64%) were nurses.

Table 3 shows that majority of study subjects (91; 59.09%) consume smoked tobacco that comprises of most of nurses (49; 62.82%). Tobacco intensity was very high in most of the health professionals, consists mainly of Medical doctors (22; 61.12%).

Table 4 shows that on applying a linear regression model it was determined that all subscale of SF-36 is significantly ($P = 0.000***$) associated with SoC. It was also determined that the strongest relation was between SoC and social functioning (r = 0.74) and the weakest correlation was between SoC and vitality (r = 0.10).

## Discussion

The present study was conducted to explore the association between HRQOL and SoC among health professionals working in primary health centers consuming tobacco. In the past, the relationship between HRQOL and SoC was explored between different special groups such breast cancer patients,[24] mentally intact nursing home residents,[25] but not among tobacco consumers which is very important to determine as tobacco affects all organs of body.[26] It was shown in the previous study that[9] the majority of health professionals in PHCs consumed tobacco and were in the age group of 36–40 years and the majority were males. In the study by Juranić *et al*.,[27] the majority of health professionals smoke cigarette from 11–20 years of age. In the same study,[27] females consume tobacco more than males. In the study conducted by Wani and Uplap,[28] male respondents consumed more tobacco than females.

In the present study, 23.37% of medical officers consumed tobacco and preferred smoking form, as compared to study by Wani and Uplap,[28] in which 25.67% of physician in PHCs consumed tobacco and also preferred smoking form.

In the present study, there was a significant association ($P \leq 0.000$) between HRQOL and SoC among health professionals consuming tobacco in PHCs. In the past, no studies conducted among tobacco consumers to study the relationship between

### Table 2: Demographic details of study participants (*n*=154)

| Demographic Variables | | n (%) |
|---|---|---|
| Age | 25-30 years | 12 (7.79) |
| | 31-35 years | 37 (24.02) |
| | 36-40 years | 57 (37.01) |
| | 41-45 years | 48 (31.18) |
| | Total | 154 (100) |
| Gender | Male | 86 (55.85) |
| | Female | 68 (44.15) |
| | Total | 154 (100) |
| Socioeconomic Status | Upper class | 03 (1.94) |
| | Upper middle | 61 (39.61) |
| | Lower middle | 59 (38.31) |
| | Upper lower | 22 (14.28) |
| | Lower | 09 (5.86) |
| | Total | 154 (100) |
| Designation | Medical officer | |
| | Nurse | |
| | Pharmacist | |
| | Total | 154 (100) |
| Marital status | Married | 113 (73.37) |
| | Unmarried | 24 (15.58) |
| | Divorcee | 11 (7.14) |
| | Widow/Widower | 06 (3.91) |
| | Total | 154 (100) |

### Table 3: Tobacco consumption frequency, tobacco consumption intensity, and nicotine dependence according to designation (*n*=154)

| Tobacco history and nicotine dependence | | Medical officer n (%) | Nurse n (%) | Pharmacist n (%) | Total n (%) |
|---|---|---|---|---|---|
| Types of tobacco consumption | Smoking | 20 (55.55) | 49 (62.82) | 22 (55) | 91 (59.09) |
| | Smokeless | 16 (44.45) | 29 (37.18) | 18 (44) | 63 (40.91) |
| | Total | 36 (23.37) | 78 (50.64) | 40 (25.99) | 154 (100) |
| Tobacco consumption frequency | Low frequency (1 or 2 days/month) | 09 (25) | 18 (23.07) | 11 (27.5) | 38 (24.67) |
| | Moderate frequency (3 to 9 days/month) | 10 (27.7) | 14 (17.94) | 07 (17.5) | 31 (20.12) |
| | High frequency (10 to 29 days/ month) | 7 (19.44) | 20 (25.64) | 09 (22.5) | 36 (23.37) |
| | Very high frequency (All 30-31 days/month) | 10 (27.86) | 26 (33.35) | 13 (32.5) | 49 (31.84) |
| | Total | 36 (23.37) | 78 (50.64) | 40 (25.99) | 154 (100) |
| Tobacco consumption intensity | Low intensity (1-5 per day) | 12 (33.33) | 23 (29.48) | 06 (15) | 41 (26.62) |
| | Moderate intensity (5-10 per day) | 02 (5.55) | 30 (38.46) | 17 (42.5) | 49 (31.81) |
| | High intensity (more than 10 per day) | 22 (61.12) | 25 (32.06) | 17 (42.5) | 64 (41.57) |
| | Total | 36 (23.37) | 78 (50.64) | 40 (25.99) | 154 (100) |
| Nicotine dependence | Low (1-2) | 09 (25) | 12 (15.38) | 03 (7.5) | 24 (15.58) |
| | Low to high (3-4) | 07 (19.44) | 08 (10.25) | 05 (12.5) | 20 (12.98) |
| | Moderate (5-7) | 06 (16.6) | 24 (30.76) | 09 (22.5) | 39 (25.32) |
| | High dependence (8+) | 14 (38.96) | 34 (43.21) | 23 (57.5) | 71 (46.12) |
| | Total | 36 (23.37) | 78 (50.64) | 40 (25.99) | 154 (100) |

**Table 4: Linear regression model of each subscale of SF-36 (*n*=154) with respect to SoC adjusted for gender, age group, Socio-economic status, designation, and marital status**

| SF-36 subscales | | PF | RP | BP | GH | V | SF | RE | MH |
|---|---|---|---|---|---|---|---|---|---|
| Covariates | | b 95 % CI | b 95 % CI | b 95 % CI | b 95 % CI | b 95 % CI | b 95 % CI | b 95 % CI | b 95 % CI |
| Intercepts | | 13.4 | -34.7 | 22.5 | -6.3 | 16.0 | 15.6 | -8.9 | 6.9 |
| | | (36.2, 5.8) | (-69.2, 7.2) | (1.5, 48.9) | (-11.0, 25.6) | (32.8, 4.7) | (-12.7, 34.3) | (-23.7,0.98) | (22.9, 5.6) |
| Age group | 25-30 Years | 9.45 | -7.22 | 12.3 | 12.2 | 19.1 | -9.87 | -7.11 | 11.0 |
| | | (22.3, 3.44) | (-17.2,1.22) | (-3.2, 22.7) | (29.2,2.34) | (3.2, 31.5) | (-19.8, 22.3) | (-26.3, 12.9) | (-41.0,2.45) |
| | 31-35 Years | -18.0 | 2.8 | 1.9 | -0.1 | 4.9 | 7.1 | 2.5 | -2.5 |
| | | (-32.1, 2.0) | (-16.4,22.0) | (-12.6, 16.3) | (- 9.2, 8.9) | (-4.2, 14.1) | (-5.6, 19.8) | (-14.8, 9.8) | (-10.4, 5.3) |
| | 36-40 Years | -4.5 | 7.6 | 10.9 | -8.9 | -1.9 | -5.6 | 5.0 | 0.99 |
| | | (-16.3, 2.3) | (-20.3, 15.8) | (-9.9, 16.5) | (-12.0,8.9) | (-5.6, 11.0) | (-12.0, 21.9) | (-9.8, 22.7) | (-7.6, 11.7) |
| | 41-45 Years | reference | reference | reference | reference | reference | Reference | Reference | reference |
| | *P* | 1.221 | 0.111 | 3.444 | 1.901 | 0.005** | 0.200 | 1.349 | 2.330 |
| Gender | Male | 4.90 | -2.0 | -8.1 | 1.9 | 1.8 | -2.3 | -5.0 | -0.2 |
| | | (-2.33, 17.2) | (-2.9, 29.0) | (-18.1, 3.9) | (-9.1, 6.8) | (-4.9, 7.5) | (-10.8, 6.3) | (-16.8, 6.7) | (-5.5, 5.2) |
| | Female | reference | reference | reference | reference | reference | Reference | Reference | reference |
| | *P* | 3.788 | 1.902 | 0.543 | 0.340 | 1.234 | 4.566 | 1.209 | 0.205 |
| Socio economic status | Upper class | -4.5 | -5.6 | -0.45 | 4.8 | 7.0 | -3.6 | 3.7 | 1.5 |
| | | (-14.5, 6.2) | (-21.7, 6.7) | (-22.4 5.9) | (11.5, 3.5) | (14.5, 1.6) | (-14.3,7.0) | (-10.9, 18.3) | (5.1, 8.1) |
| | Upper Middle | -1.2 | 12.7 | 11.6 | 2.6 | -1.5 | 7.1 | 16.9 | 1.1 |
| | | (-8.7, 6.2) | (-2.7, 28.2) | (0.0, 23.3) | (-4.7, 9.9) | (-5.9, 8.9) | (-3.0,17.3) | (3.0, 30.9) | (-5.3,7.4) |
| | Lower middle | -9.9 | 10.5 | -8.6 | - 4.1 | 2.1 | -12.3 | 6.6 | 0.1 |
| | | (-23.1, 3.4) | (-16.9, 37.9) | (-29.3,12.1) | (-17.1, 8.8) | (-11.0, 15.3) | (-30.0, 5.8) | (-18.2, 31.4) | (-11.2, 11.3) |
| | Upper lower | -3.7 | -7.6 | -6.2 | -4.9 | -5.7 | -3.6 | 3.7 | 1.5 |
| | | (-11.5, 4.1) | (-23.7, 8.5) | (-18.4,5.9) | (-12.5, 2.7) | (-13.4,2.0) | (-14.3,7.0) | (-10.9, 18.3) | (5.1, 8.1) |
| | Lower | reference | reference | reference | reference | reference | reference | reference | reference |
| | *P* | 0.822 | 0.088 | 1.215 | 1.540 | 0.331 | 5.333 | 6.002 | 1.016 |
| Designation | Medical officer | -2.2 | 0.78 | -11.6 | 3.3 | 1.3 | 0.1 | - 1.34 | 0.67 |
| | | (-7.8, 8.9) | (-15.6, 18.9) | (-24.5, 1.3) | (-4.8, 11.4) | (-6.9, 9.5) | (10.2, 12.3) | (-20.8,3.4) | (-11.3, 4.7) |
| | Nurse | - 0.5 | -13.0 | -19.7 | -2.7 | 0.3 | -11.6 | -11.4 | -3.4 |
| | | (-8.6, 7.8) | (-29.9, 4.0) | (-32.5, -6.9) | (-10.7, 5.4) | (-7.9, 8.4) | (-22.8, -0.4) | (-26.7, 3.8) | (-10.4, 3.6) |
| | Pharmacist | reference | reference | reference | reference | reference | reference | reference | reference |
| | *P* | 1.305 | 0.918 | 0.050* | 3.578 | 1.488 | 4.221 | 2.333 | 1.300 |
| Marital status | Married | 11.2 | 6.5 | 4.7 | -0.8 | -13.5 | -2.3 | 1.2 | 5.8 |
| | | (23.4, 0.2) | (19.7, 1.7) | (13.5, -2.4) | (-7.8, 10.9) | (-21.4, 5.6) | (-7.8,10.8) | (11.3, -0.8) | (22.8, 0.4) |
| | Unmarried | 1.89 | 2.3 | -3.7 | -2.3 | 1.9 | 3.8 | -4.5 | 1.2 |
| | | (-8.6, 11.2) | (21.1, -0.23) | (-16.7, 2.45) | (-19.3, 7.8) | (-12.3, 9.8) | (-25.8, 5.9) | (-13.4, 3.6) | (-22.3- 4.6) |
| | Divorcee | 1.22 | 2.88 | -3.90 | 6.93 | 1.45 | 11.89 | 3.11 | 1.99 |
| | | (-2.89, 1.09) | (1.90, 4.26) | (-5.87, 7.89) | (0.56, 9.94) | (-2.11, 3.50) | (17/01, 5.88) | (7.89, -0.27) | (-1.04, 4.55) |
| | Widow/Widower | reference | reference | reference | reference | reference | reference | reference | reference |
| | *P* | 0.001** | 0.223 | 1.110 | 2.307 | 1.289 | 0.099 | 0.127 | 1.199 |
| SoC | | 1.8 | 0.97 | 4.6 | 1.4 | 3.9 | 7.8 | 1.5 | 5.8 |
| | | (-3.5, 5.6) | (-1.8, 6.8) | (6.8, -3.7) | (6.8, -0.87) | (12.3, 1.5) | (19.2,1.4) | (-7.9, 8.9) | (19.7, 2.8) |
| *P* | | 0.000*** | 0.000*** | 0.000*** | 0.000*** | 0.000*** | 0.000*** | 0.000*** | 0.000*** |
| Adjusted $R^2$ | | 0.88 | 0.56 | 0.49 | 0.28 | 0.29 | 0.81 | 0.15 | 0.27 |
| Partial eta | | 0.12 | 0.23 | 0.20 | 0.51 | 0.10 | 0.74 | 0.23 | 0.36 |
| Pearson r* | | 0.34 | 0.89 | 0.11 | 0.37 | 0.30 | 0.63 | 0.93 | 0.67 |

SoC=sense of coherence, b=regression coefficient, CI=confidence interval. Pearson correlation and partial correlations were significant at 0.000 (two-tailed) for all SF-36 sub-dimensions: PF, physical functioning; RP, role-physical; BP, bodily pain; GH, general health; V, vitality; SF, social functioning; RE, role-emotional; MH, mental health

HRQOL and SoC. Studies conducted in various special groups such as primary care patients with chronic musculoskeletal pain showed that strong SoC is associated with better HRQOL.[29]

Limitation of the study includes cross-sectional design and questionnaire type, where people may have the habit of faking good bias. Further nationwide surveys are warranted to explore the real nature of tobacco usage by primary healthcare workers.

The present study can be used for primary prevention in terms of tobacco counseling among the staff at primary healthcare centers by utilizing SoC concept and HRQOL. The staff at health care delivery system is always short of the staffing pattern given by regulatory bodies; hence, improving their productivity will enhance the already falling health care system. When the tobacco users at PHCs quit the habit of tobacco, then only they can counsel the patients who use tobacco effectively.

## Conclusion

From the present study, it can be summarized that males used tobacco more than females and the most preferred form was a smoked type. Nurses consumed tobacco in smoked form. The intensity of tobacco usage was intense among medical professionals. From above, it was concluded that there was a strong association between HRQOL and SoC among health professionals working in primary health centers consuming Tobacco.

## Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form, the participants have given their consent for their images and other clinical information to be reported in the journal. The participants understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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## Conflicts of interest

There are no conflicts of interest.

## References

1. Shimkhada R, Peabody JW. Tobacco control in India. Bull World Health Organ 2003;81:48-52.

2. Tata Institute of Social Sciences (TISS), Mumbai and Ministry of Health and Family Welfare, Government of India. Global Adult Tobacco Survey GATS 2 India 2016-17.

3. Stewart AL, King AC, Killen JD, Ritter PL. Does smoking cessation improve health-related quality-of-life? Ann Behav Med 1995;17:331-8.

4. Mody RR, Smith MJ. Smoking status and health-related quality of life: As findings from the 2001 Behavioral Risk Factor Surveillance System data. Am J Health Promot 2006;20:251-8.

5. McClave AK, Dube SR, Strine TW, Mokdad AH. Associations between health-related quality of life and smoking status among a large sample of U.S. adults. Prev Med 2009;48:173-9.

6. Mulder I, Tijhuis M, Smit HA, Kromhout D. Smoking cessation and quality of life: The effect of amount of smoking and time since quitting. Prev Med 2001;33:653-60.

7. Castro MR, Matsuo T, Nunes SO. Clinical characteristics and quality of life of smokers at a referral center for smoking cessation. J Bras Pneumol 2010;36:67-74.

8. Najder A. Sense of coherence, smoking status, biochemical cardiovascular risk factors and body mass in blue collar workers-short report. Am J Mens Health 2018;12:894-9.

9. Igna CV, Julkunen J, Ahlström R. Sense of coherence relates with smoking. J Health Psychol 2008;13:996-1001.

10. Pallant JF, Lae L. Sense of coherence, well-being, coping and personality factors: Further evaluation of the sense of coherence scale. Pers Individ Dif 2002;33:39-48.

11. Ekman I, Fagerberg B, Lundman B. Health-related quality of life and sense of coherence among elderly patients with severe chronic heart failure in comparison with healthy controls. Heart Lung 2002;31:94-101.

12. Nygren B, Alex L, Jonsen E, Gustafson Y, Norberg A, Lundman B. Resilience, sense of coherence, purpose in life and self-transcendence in relation to perceived physical and mental health among the oldest old. Aging Ment Health 2005;9:354-62.

13. Moen VP, Eide GE, Drageset J, Gjesdal S. Sense of coherence, disability, and health-related quality of life: A cross-sectional study of rehabilitation patients in Norway. Arch Phys Med Rehabil 2019;100:448-57.

14. World Health Organization. MPOWER: A Policy Package to Reverse the Tobacco Epidemic. Geneva: WHO; 2012.

15. Lancaster T, Stead L. Physician advice for smoking cessation. Cochrane Database Syst Rev 2004:CD000165.

16. Nilan K, McKeever TM, McNeill A, Raw M, Murray RL. Prevalence of tobacco use in healthcare workers: A systematic review and meta-analysis. PLoS One 2019;14:e0220168.

17. District-wise Primary Health Centers List. Retrievedfrom: http://nrhmrajasthan.nic.in/PHC%20Dt.%2026.01.13/PHC%20Jaipur.pdf. [Last accessed on 2019 Nov 19].

18. World Health Organization. Oral Health Surveys-Basic Methods. 5th ed. Geneva 27, Switzerland: ; 2013. p. 83-4.

19. Oberoi SS. Updating income ranges for Kuppuswamy's socio-economic status scale for the year. IJPH 2014;59:156-7.

20. Bellido-Casado J, Martín-Escudero J, Dueñas-Laita A, Mena-Martín FJ, Arzúa-Mouronte D, Simal-Blanco F. The SF-36 Questionnaire as a measurement of health-related quality of life: Assessing short- and medium-term effects of exposure to tobacco versus the known long-term effects. Eur J Intern Med 2004;15:511-7.

21. Eriksson M, Mittelmark MB. The sense of coherence and its measurement. In: Mittelmark MB, Sagy S, Eriksson M, Bauer GF, Pelikan JM, Lindström B, editors. The Handbook of Salutogenesis [Internet]. Cham (CH): Springer; 2017. Chapter 12. 2016 Sep03.

22. Lam E, Giovino GA, Shin M, Lee KA, Rolle I, Asma S. Relationship between frequency and intensity of cigarette smoking and TTFC/C among students of the GYTS in select countries, 2007-2009. J Sch Health 2014;84:549-58.

23. Breslau N, Johnson EO. Predicting smoking cessation and major depression in nicotine-dependent smokers. Am J Public Health 2000;90:1122-7.

24. Rohani C, Abedi HA, Sundberg K, Langius-Eklöf A. Sense of coherence as a mediator of health-related quality of life dimensions in patients with breast cancer: A longitudinal study with prospective design. Health Qual Life Outcomes 2015;13:195.

25. Drageset J, Nygaard HA, Eide GE, Bondevik M, Nortvedt MW, Natvig GK. Sense of coherence as a resource in relation to health-related quality of life among mentally intact nursing home residents-A questionnaire study. Health Qual Life Outcomes 2008;6:85.

26. Mishra A, Chaturvedi P, Datta S, Joshi P, Garg A. Harmful effects of nicotine. Indian J Med Paediatr Oncol 2015;36:24-31.

27. Juranić B, Rakosec Z, Jakab J, Miksic S, Vuletic S, Ivandic M, *et al.* Prevalence, habits and personal attitudes towards

smoking among health care professionals. J Occup Med Toxicol 2017;12:20.

28. Wani DA, Uplap PA. Exploring practices of tobacco consumption and preparedness towards tobacco cessation amongst primary health care physicians in a selected district of Maharashtra, India. Int J Community Med Public Health 2018;5:4450-5.

29. Chumbler NR, Kroenke K, Outcalt S, Bair MJ, Krebs E, Wu J, *et al.* Association between sense of coherence and health-related quality of life among primary care patients with chronic musculoskeletal pain. Health Qual Life Outcomes 2013;11:216.