ASSESSMENT OF KNOWLEDGE, ATTITUDE AND PRACTICE IN HYPOTHYROID FEMALE PATIENTS IN A TERTIARY CARE HOSPITAL

I.Mufida Begum[1*], D. Kumudha[1]
Faculty of Pharmacy, Karpagam Academy of Higher Education
Coimbatore, Tamil Nadu, India
*Email: mufinisar2020@gmail.com.
kumudhachem@gmail.com
Corresponding author: I.Mufida Begum

Abstract

Background: Hypothyroidism is the most prevailing thyroid disorder affecting people globally. Women are more likely than men to have thyroid disorders. There is a dearth of data on Indian women with hypothyroidism in appellation of their knowledge, awareness, and practices (KAP). Therefore, the study aimed is to evaluate the Indian hypothyroid women on the basis of the Knowledge, Attitude, and Practices . **Methods:** Hypothyroid women who are ≥18 years old, participated in the study.It was planned to be carried out in tertiary care hospital,SouthIndia.This strategic cross sectional study was assessed by using KAP-33 questionnaire. **Results:** The present study showed that < 30 years of age was predominant and it is associated with significant effect (*p<0.01)* of knowledge, attitude and practice. Knowledge level was non-significantly associated with scholastic level *(p>0.05*), working status (*p>0.05*) and region (*p>0.05*). The age and marital status were strongly associated with level of knowledge, attitude and practice about hypothyroidism and the family history of thyroid disorder, occupational status, area of living and number of comorbidities showed significant association with level of attitude and practice and non-significant association with knowledge. Educational level showed non-significant association with knowledge, attitude and practice about hypothyroidism. **Conclusion:** Educated patients surprisingly found to lack knowledge regarding to thyroid disorders and younger women (< 30 years) had more knowledge about hypothyroidism.

Key words: Hypothyroidism, KAP questionnaire, Thyroid disorder.

1.Introduction

Thyroid diseases are among the most widespread endocrine conditions affecting people globally. Hypothyroidism, which affects one in ten adults in India and is thought to affect 42 million people, is the most prevalent thyroid disorder. In India 11% of people have hypothyroidism compared to 2% in the UK and 4.6% in the USA. (Jailkhani et al., 2015, Sunil & Leena.,2022). Female gender is more likely than men to have both hypothyroidism and hyperthyroidism. Young women with hypothyroidism have been associated to infertility, polycystic ovaries, and irregular menstrual cycles (Priya K., 2020). Age, sex, location and iodine intake are some of the variables that affect the prevalence of thyroid problems and other environmental variables may contribute to hypothyroidism in India.(Rashad & Samir., 2019 and Bagcchi.,2014).

Thyroid disorders can manifest through a range of clinical signs and symptoms that affect multiple physiological systems, with the presentation largely determined by the specific nature of the disorder. Due to the nonspecific nature of many symptoms, thyroid conditions are frequently overlooked or misdiagnosed as other illnesses. Consequently, individuals with thyroid

dysfunction, who may be unaware of their condition, stand to gain significant benefit from enhanced awareness and education regarding the disease. Patients who are undiagnosed typically lack of awareness and understanding signs and symptoms of the thyroid gland (Alyahya et al., 2021).Furthermore, some hypothyroid women are asymptomatic and are unlikely to exhibit any clinical symptoms. (Alkafajei et al., 2012).

The treatment of the disease state is influenced by the patients' knowledge and attitudes, which helps to improve drug compliance, morbidity, and mortality. The first stage of developing a disease prevention program is finding out how much people are aware of the condition (Das et al., 2020). An Individual attitude, social variables, lack of health-related knowledge, influence healthcare seeking behaviour (Bashaar et al.,2019). To improve early identification, proper intervention, and to attain treatment goals or improve management, it is essential to have awareness and an adequate understanding about diseases (Al-Yahya et al.,2020, Herath et al.,2017, Alaofe et al.,2021). Advances in knowledge and skills are a crucial social construct that change behaviour and result in favourable health outcomes (Mousavi & Shojaei., 2021). Questionnaires on knowledge, attitudes, and practices (KAPs) can be used to assess certain programs. The first step in developing a disease prevention strategy is raising awareness (Asante et al., 2023).The results of a KAP research may appear easy to understand yet they can have a significant impact on the neighbourhood. The KAP study's findings further generate reference values for a range of healthcare parameters that can be used in upcoming analysis (Ralapanawa et al., 2020).

Indian women lack of sufficient facts on Knowledge, Attitude and Practice (KAP) of hypothyroidism. The studyaimed toevaluate the Knowledge, Attitude, and Practices (KAP) level in hypothyroid women Indian women.

2. Methodology

Study design

A prospective cross-sectional study for a period of one year (October2021-September 2022)was done in a hospital, which was categorised under a tertiary care, Southern India.

Ethical consideration

The study commenced with the approval from the institutional ethical committee was from Karpagam faculty of Medical Sciences and Research (Ref: IHEC/222/10/2021).Participating patients were endorsed through informed consent.

Inclusion criteria: Women with Hypothyroidism with ≥18 years old.

Exclusive criteria: Children and infants, Male with hypothyroidism, hyperthyroidism patients and patients with congenital abnormalities.

Sample size

The population of this study were 327 patientswho underwent hypothyroid therapy in general medicine outpatient department at Karpagam faculty of Medical Sciences and Research.

Acta Biomed 2024; Vol. 95, N. 2: ISSN: 0392-4203 | eISSN: 2531-6745

Research Instruments

Informed consent duly accepted form the study, KAP-33 questionnaire used to assess the KAP levels.

Study Procedure

A pre designed data entry form have prepared and collected the demographic variables like age, marital status, educational level, area of living, family history, duration of hypothyroidism and comorbidities. Acquisition of the questionnaire coined by Shanmugam et al. on KAP-33 questionnaire was granted after communication. The KAP-33 questionnaire is segregated into: 20 questions in the knowledge category related to diagnosis, symptoms, risk factors, and therapy for hypothyroidism. (Patients' knowledge on hypothyroidism), 5 questions in the attitude category like patients toward disease and treatment (attitude towards hypothyroidism), and 8 questions in the practice category like adherence to practice (practice regarding hypothyroidism).The questions consisting of rhetorical questions on the basis of knowledge and practice sections of the questionnaire were constructed as open-ended questions, whereas questions in the attitude section were in affirmation.

Scoring of KAP Questionnaire

The evaluations of three KAP Domains were conducted as follows:

a. Positive comprehension assertions received a score of 1 for "Yes" responses, while negative responses marked as "No" were given 0 points, indicating a wrong answer. Responses of "Don't know" also received 0 points. The overall scores were then classified into three categories: "low level" for scores of 12 points or less, "midpoint" for scores ranging from 13 to 15 points, and "highest level" for scores of 16 points or more.

b. The perspective level was categorized based on responses to a Likert scale. If a score of 4 or 5 was marked for all 5 assertions, the level was considered "extremely anxious." If the correct response was given for 3–4 assertions, it was labeled as "quite anxious." A level of "little anxious" was assigned if the correct response was provided for 1–2 assertions. If no statements were responded to correctly, it was classified as "non-anxious."

c. In measuring practice scores, patient implementation was graded on a scale from 0 to 8 points. Scores of 7 points or higher were categorized as "highest level" of practice, scores ranging from 4 to 6 points were classified as "midpoint level," and scores of 3 points or less were considered "Indigent level".

Statistical analysis

Categorical variables were analysed using incidence (n) and proportions (%) and constant variables were consolidated by eloquent statistics. The Statistical and analytical results were achieved using Chi-square/Fisher test with 0.05 as level of significance for comparison across groups.

Results

Table.1. Socio demographic details of study population.

S.No	Parameters	Frequency (n) (%)
1	**Age**	
	<30	159 (48.6)
	31-60	134(41)
	>61	34(10.4)
2	**Marital status**	
	Married	198(60.5)
	Unmarried/widow/divorced	129(39.4)
3	**Employment status**	
	Employed	120(36.7)
	Un employed	207(63.3)
4	**F/h of thyroid disorder**	
	Yes	215(65.7)
	No	112(34.2)
5	**Area of living**	
	Urban	208(63.6)
	Rural	119(36.3)
6	**No. of comorbidity**	
	≤ 2	224(68.5)
	> 2	103(31.5)
7	**Educational level**	
	Illiterate	24(7.3)
	Primary	114(34.9)
	Diploma/UG/PG	189(57.8)

A total of 327 hypothyroidism women were included the study according to inclusion criteria of the baseline characteristic like age, comorbid, educational status, employment status was showed in Table.1. It was summarized that 48.6% of patients were in <30 years of age group, 60.5% in married, 63.3% patients were in unemployed, 65.7% patients had family history of thyroid disorders, 63.6% patients from urban area, 68.5% patients with ≤ 2 comorbidities and 57.8% patients with degree or diploma. The table 2 results showed that women in 31-60 years of age were statistically significant association with poor levels of knowledge ($p<0.001$), little levelled of attitude ($p<0.001$) and poor measure of practice ($p<0.001$) about hypothyroidism.

Acta Biomed 2024; Vol. 95, N. 2: ISSN: 0392-4203 | eISSN: 2531-6745

Table.2. Frequency of patients according to KAP related to hypothyroidism

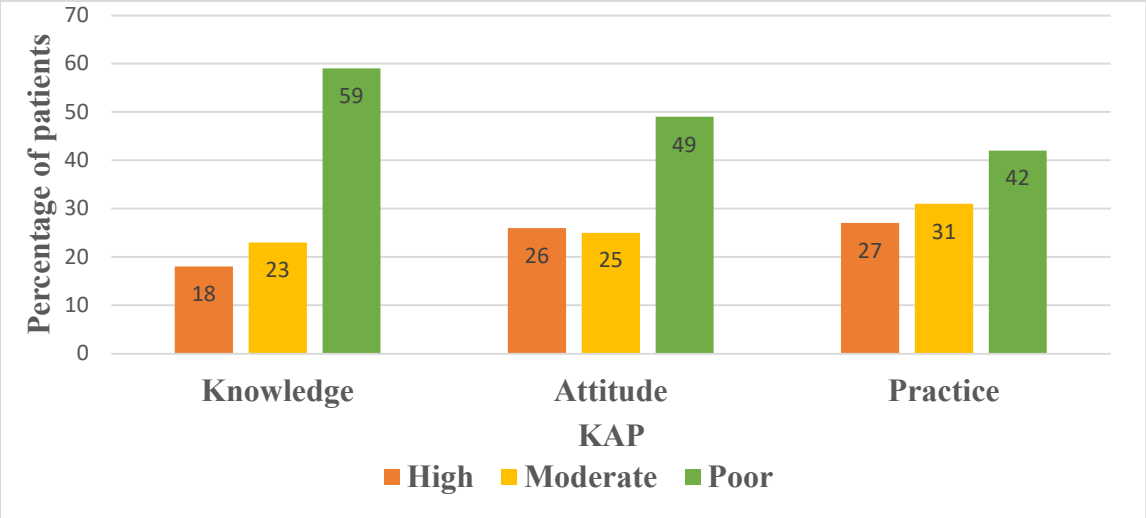
Parameters		Knowledge		P Value	Attitude		P Value	Practice		P Value
		Moderate & good (133)	Poor (194)		Extremely and quite (167)	Little (160)		Moderate& high (191)	Poor (136)	
Age	<30	80	79	0.001	101	58	0.001	121	38	0.001
	31-60	49	85		51	83		58	76	
	> 61	04	30		15	19		12	22	
Marital status	Married	65	133	0.001	87	111	0.001	96	102	0.001
	Unmarried/ widow/ divorced	68	61		80	49		95	34	
Employment status	Employed	55	65	0.148	89	31	0.001	92	28	0.001
	Un employed	78	129		78	129		99	108	
F/H thyroid disorder	No	81	134	0.126	137	78	0.001	152	63	0.001
	Yes	52	60		30	82		39	73	
Area of living	Urban	86	122	0.743	146	62	0.001	145	63	0.001
	Rural	47	72		21	98		46	73	
No. of comorbidity	≤ 2	90	134	0.788	142	82	0.001	170	54	0.001
	> 2	43	60		25	78		21	82	
Educational level	Illiterate	06	18	0.267	11	13	0.746	12	12	0.299
	Primary	48	66		61	53		62	52	
	Diplomo/ UG/PG	79	110		95	94		117	72	

The statistically higher number of patients in married women found implication related with poor levelled of knowledge ($p<0.001$), little levelled of attitude ($p<0.001$) and poor extent of practice about hypothyroidism ($p<0.001$). Women with unemployed showed statistically significant association with little levelled of attitude ($p<0.001$) and poor extent of practice about hypothyroidism ($p<0.001$). Women with no family history of thyroid disorder showed the significant association with extremely and quite levels of attitude ($p<0.001$) and moderate and good level of practice about hypothyroidism ($p<0.001$). The statistically higher number of patients in married women showed significant association with poor level of knowledge ($p<0.001$), little level of attitude ($p<0.001$) and poor level practice about hypothyroidism ($p<0.001$).

Hypothyroidism women with urban area showed significant association with extremely and quite levels of attitude ($p<0.001$) and moderate and good level of practice about hypothyroidism ($p<0.001$) compare than in patient living rural area. Higher number of women with hypothyroidism tends to have less knowledge despite of number of comorbidities (≤ 2). Significant association was shown with extremely and quite levels of attitude ($p<0.001$) and moderate and good level of practice about hypothyroidism ($p <0.001$) when compared with patients living with >2 number of

comorbidities. There was no statistically significant association of educational level (p>0.05) with knowledge (p>0.267), attitude (p>0.746), and practice (p>0.299), about hypothyroidism. Surprisingly, the educated women showed with poor level of knowledge and attitude towards hypothyroidism.

Figure.1. Frequency of KAP level among the study population



The age group 31-60 years and married women were statistically associated with poor level of knowledge, attitude and practice about hypothyroidism and unemployed women showed that little degree of attitude and poor degree of practice. Women patients living in the rural area showed significant results related with little level of attitude and poor degree of practice and women with the family history of thyroid disorder showed extremely and quite level of attitude and moderate and high level of practice. Educational level showed non-significant association with knowledge, attitude and practice about hypothyroidism.

Discussion

Prevalence of hypothyroidism is increasing worldwide. Hypothyroid dysfunction in women is the majority dominant type influence 4-5% in the established territories. It is one of the leading characteristic thyroid disorders affecting one tenth Indians (Ibrahi & M.A., 2018) . In our study < 30 years of age is predominant and it was associated with significant effect of knowledge, attitude and practice. Knowledge extent was non-significant correlated with scholastic level (p=0.2670), placement position (p=0.1480) and region (p=0.7431).The previous study showed that knowledge was irrelevant to gender, age, scholastic, and working status of the appellants (p > 0.05).Women with 36- 50 age group found to have poor knowledge regarding the differences between hypothyroidism and hyperthyroidism (Almuzaini et al., 2019).

The previous study showed that there was no correlation on the basis of knowledge and marital status, employment status and locality of stay and high level of knowledge found to be predominant in educated people with bachelor's or graduate degree (Mirghani et al., 2023).

Our study showed that education level had no significant associated level with knowledge, attitude and practice. But the previous study showed that there was a implication linked between education levels and knowledge. Undergraduates (76.9%) and postgraduates (34.6%) both had higher

proportions of low and high knowledge levels, respectively. The degree of concern and educational attainment were significantly correlated. The majority of postgraduates (60.5%) and a significant numeral of undergraduates (50.2%) were both somewhat alarmed about hypothyroidism. (Vyas et al., 2018) The results of the study showed that most people had college degrees or higher education, with 53.6%. The preponderance of the female patients had limited understanding and cognizance of hypothyroidism. (Kumar et al., 2017)

The current was found that knowledge level about thyroid disorder was fairly inadequate. The first step to obtaining improved health for all is raising awareness of the thyroid and the many disorders that have an impact on it. (Namitha et al., 2019) The study population had low awareness about thyroid illnesses and those that are related to them. Multiple factors are involved in the lack of knowledge among patients in India at present. Patients will be more encouraged to follow up frequently, take their medications as directed, and tell their friends and family about thyroid disorder for achieving the therapeutic outcome. (Arora et al., 2023)

Conclusion

Theknowledge attitude and practice on specific diseases is important in each individual patient. Women lack in KAP due to paucity in propaganda and transmission when compared to men. Educated women patients found to be amazing facts with poor knowledge level. Young female patients (< 30 years) had more knowledge about hypothyroidism. The study recommends that, future studies on hypothyroidism to be focused on clear and improved public health strategies. There is a need to implement continuous extensive awareness campaigns and also to create innovative instruments and instructional techniques that enhance conformity with the patient practices.

Limitations

1. Single centre study: The study was conducted in a single tertiary care hospital in South India, which may limit the generalizability of the findings to other regions or healthcare settings within India.

2. Exclusion of male patients: The study focused exclusively on female hypothyroid patients, excluding male patients. This limits the applicability of the findings to the male population, as knowledge, attitudes, and practices related to hypothyroidism may differ between genders.

3. Self-reported data: The study relied on self-reported data from the participants, which can be subject to recall bias, social desirability bias, or underreporting of certain practices or behaviours.

4. Cross-sectional study design: The cross-sectional nature of the study provides a snapshot of the knowledge, attitudes, and practices at a specific point in time. A longitudinal study design would allow for the assessment of changes or trends in these factors over time, providing a more comprehensive understanding of the evolution of knowledge, attitudes, and practices among hypothyroid patients.

Funding: No funding

Acknowledgement:

I sincerely thank the Ethical committee, my research guide, and the management of Karpagam Academy of Higher Education in the completion of work.

References

1. Alaofè, H., Hounkpatin, W. A., Djrolo, F., Ehiri, J., & Rosales, C. (2021). Knowledge, attitude, practice and associated factors among patients with type 2 diabetes in Cotonou, Southern Benin. BMC public health, 21(1), 339. https://doi.org/10.1186/s12889-021-10289-8
2. Alkafajei, A., Amarin, Z., Alazaizeh, W., Khader, Y., & Marji, M. (2012). Prevalence and risk factors for hypothyroidism in Jordanian women: comparison between different reference ranges. Eastern Mediterranean health journal, 18(2), 132–136. https://doi.org/10.26719/2012.18.2.132
3. Almuzaini, A., Alshareef, B., Alghamdi, S., Munshy, A., Aljarallah, A., Salman, S., Alroqi, K., & Alkhaldi, R. (2019). Assessment of knowledge and awareness regarding thyroid disorders among Saudi people. International Journal of Medicine in Developing Countries, 1070–1076. https://doi.org/10.24911/ijmdc.51-1568037206
4. Alyahya, A., AlNaim, A., AlBahr, A. W., Almansour, F., & Elshebiny, A. (2021). Knowledge of Thyroid Disease manifestations and risk factors among Residents of the Eastern Province, Saudi Arabia. Cureus, 13(1), e13035. https://doi.org/10.7759/cureus.13035
5. Al-Yahya, A., Alsulaiman, A., Almizel, A., Barri, A., & Al Adel, F. (2020). Knowledge, Attitude, and Practices (KAP) of Diabetics Towards Diabetes and Diabetic Retinopathy in Riyadh, Saudi Arabia: Cross-Sectional Study. Clinical ophthalmology (Auckland, N.Z.), 14, 3187–3194. https://doi.org/10.2147/OPTH.S269524
6. Arora, R., Mittal, P., Trivedi, J., & Verma, A. (2023). Evaluation of Knowledge, Attitude and Practice towards Hypothyroidism among Population in Moradabad District: A Pilot Study. International Journal of Pharmaceutical Investigation, 13(2), 335–343. https://doi.org/10.5530/ijpi.13.2.044
7. Asante, D. O., Dai, A., Walker, A. N., Zhou, Z., Kpogo, S. A., Lu, R., Huang, K., & Zou, J. (2023). Assessing hypertension and diabetes knowledge, attitudes and practices among residents in Akatsi South District, Ghana using the KAP questionnaire. Frontiers in public health, 11, 1056999. https://doi.org/10.3389/fpubh.2023.1056999
8. Bagcchi S. (2014). Hypothyroidism in India: more to be done. The lancet. Diabetes & endocrinology, 2(10), 778. https://doi.org/10.1016/S2213-8587(14)70208-6
9. Bashaar, M., Saleem, F., Thawani, V., Hassali, M. A., & Hashemi, T. (2019). Evaluation of hypertension related knowledge, attitudes and practices at community level in Kabul. Pharmacy &Pharmacology International Journal, 7(3). https://doi.org/10.15406/ppij.2019.07.00239
10. D, N., & Y. D, S. (2019). Analysis of Knowledge and Awareness of Thyroid and Its Disorders among Students of Rural South Karnataka. Scholars International Journal of Biochemistry, 2–5, 149–152. https://doi.org/10.36348/sijb.2019.v02i05.003
11. Das, A. K., Lahiri, G., Bose, A., & Sarkar, D. K. (2020). Assessment of patients' knowledge, attitude and practice regarding hypertension in a tertiary care hospital. International Journal of Community Medicine and Public Health/International Journall of Community Medicine and Public Health, 7(12), 4967. https://doi.org/10.18203/2394-6040.ijcmph20205171
12. Herath, H. M. M., Weerasinghe, N. P., Dias, H., & Weerarathna, T. P. (2017). Knowledge, attitude and practice related to diabetes mellitus among the general public in Galle district in

Southern Sri Lanka: a pilot study. BMC public health, 17(1), 535. https://doi.org/10.1186/s12889-017-4459-5
13. Ibrahim, A. M. A. (2018). Survey of Awareness of Thyroid Disorders among the Riyadh Population, Central Region of Saudi Arabia. The Egyptian Journal of Hospital Medicine, 72(2), 4039–4044. https://doi.org/10.21608/ejhm.2018.9095
14. Jailkhani, R., Ramachandrayya, S., Patil, V., & Sameena, S. (2015). A hospital-based study of prevalence of thyroid dysfunction in Srinagar, Jammu and Kashmir state of India. International Journal of Medical Science and Public Health, 4(2), 151. https://doi.org/10.5455/ijmsph.2015.0310201433.
15. Kumar, P., Khandelwal, D., Mittal, S., Dutta, D., Kalra, S., Katiyar, P., & Aggarwal, V. (2017). Knowledge, Awareness, Practices and Adherence to Treatment of Patients with Primary Hypothyroidism in Delhi. Indian journal of endocrinology and metabolism, 21(3), 429–433. https://doi.org/10.4103/ijem.IJEM_49_17
16. Mirghani, H., Alquayr, S. M., Alanazi, T., Alwakeel, A. A., Al Madshush, A. M., Alali, H. A., Alerrwi, G. S., & Alshehri, A. D. (2023). Knowledge Assessment Regarding the Differences Between Hypothyroidism and Hyperthyroidism Among Saudi Arabia's Adult Population. Cureus, 15(4), e37830. https://doi.org/10.7759/cureus.37830
17. Mousavi, F., & Shojaei, P. (2021). Knowledge, Attitude, and Practice of Diabetes Mellitus. Thrita, 10(1). https://doi.org/10.5812/thrita.114088
18. Priya, K.(2020). Prevalence of thyroid dysfunction in young females. MedPulse International Journal of ENT, 14(2), 09-11. https://doi.org/10.26611/10161421
19. Ralapanawa, U., Bopeththa, K., Wickramasurendra, N., & Tennakoon, S. (2020). Hypertension Knowledge, Attitude, and Practice in Adult Hypertensive Patients at a Tertiary Care Hospital in Sri Lanka. International journal of hypertension, 2020, 4642704. https://doi.org/10.1155/2020/4642704
20. Rashad, N. M., & Samir, G. M. (2019). Prevalence, risks, and comorbidity of thyroid dysfunction: a cross-sectional epidemiological study. the Egyptian Journal of Internal Medicine/the Egyptian Journal of Internal Medicine, 31(4), 635–641. https://doi.org/10.4103/ejim.ejim_22_19
21. Sunil, S., & Leena, K. (2022). Contributing Factors of Hypothyroidism- A Systematic Review. Journal of Clinical and Diagnostic Research. 16(1),1-5. https://doi.org/10.7860/jcdr/2022/50941.15846
22. Vyas, U., Sethi, B., & Khandelwal, D. (2018). A cross-sectional survey to assess knowledge, attitude, and practices in patients with hypothyroidism in India. Thyroid Research & Practice/Thyroid Research & Practice, 15(1), 15. https://doi.org/10.4103/trp.trp_25_17
23. Balaji, B. L., & Pyari, D. (2023). Reforming Early Childhood Education Programs in Rural Areas of India: Equity in Preschool Education. International Society for Technology, Education, and Science.
24. Vandana, D. P., & Kumar, R. (2023). The relationship between physical health and psychological impact of happiness in teachers. Journal for ReAttach Therapy and Developmental Diversities, 6(5s), 431-440.
25. Dayal, P. (2022, November). Psycho-socio and biographical variables: Scientific aptitude and secondary school students. In AIP Conference Proceedings (Vol. 2481, No. 1). AIP Publishing.
26. Chahar, D. A Study Of Teachers Collectiveefficacy In Relation To Certain Psychosocial Attributes And Demographic Variables Of Teachers In Secondary Schools.

27. Pyari, D. (2011). Theory and distance education: At a glance. In 2011 5th International Conference on Distance Learning and Education IPCSIT (Vol. 12, pp. 94-99).
28. Muddgal, A., & Pyari, D. (2016). A Comparative Study of Anxiety, Depression and Stress among medical and engineering students. International journal of scientific research, 5(3), 41-44.
29. Pyari, D. (2011). Environmental stewardship and religion. International Journal of Educational Research and Technology, 2(1), 26-35.
30. Pyari, D., & Muddgal, A. (2017). Effect of Emotional Intelligence: Academic Achievement and Higher Secondary Students. Asian Journal of Research in Social Sciences and Humanities, 7(10), 127-141.
31. Balaji, B. L., & Pyari, D. (2023). Reforming Early Childhood Education Programs in Rural Areas of India: Equity in Preschool Education. International Society for Technology, Education, and Science.