Chapter II

REVIEW OF RELATED LITERATURE

The research scholar has made sincere efforts to locate the literature related to this study. The relevant studies gleaned from various sources which the research scholar has come across have been abstracted in this chapter.

A number of studies have been conducted on physical education programmes, facilities, athletic participation, evaluation in health teaching, health and intelligent quotient, but no particular study seems to have been conducted so far on the knowledge of human structure. Knowledge of health, its practices as well as knowledge of human structure are finding a place in the curriculum content of physical education in the modern times. It gives us an insight to make a study of new curricular contents. Laxmibai National College of Physical Education, Gwalior is the chief source of collection of excerpts on review of related literature, which is one of the best libraries in India, with a rich collection of books in the field of physical education, health education and sports. The researcher availed an opportunity to go through various types of literature like research quarterlies, Journals of various types, periodicals, encyclopedias and relevant books to pickup useful material which has been examined carefully and critically before being incorporated in the present study.
While going through the various types of literature it is evident that no such research work on the study undertaken by the researcher has been done so far. Whatever research work has been carried out in the allied areas and which could be traced in the doctoral thesis, journals, periodicals and books etc. and is considered related to the present investigation has been cited in this chapter. Shaw and Coccari\textsuperscript{1} attempted to determine not only the changes in health knowledge evidenced by sixtytwo participants in a three week health education workshop but also the relationship between each students knowledge and the ratings of his contribution to a workshop situation, as measured by staff and fellow workshop members. It was concluded that there was considerable gain in health knowledge. However, although there was substantial agreement between instructor and fellow student rating as to the contribution of a particular individual to the workshop, there was apparently little relationship, between his knowledge as measured by standardised test secures and the above ratings.

Ray and Webb\(^2\) conducted a study to determine the overall health knowledge, the health education needs and the health knowledge in each of the ten health education content areas of prospective elementary teachers in selected colleges and universities in Texas. In addition and comparison of the participants health knowledge was made with the number of completed health courses, reaction to the completed health courses and degree of confidence for teaching health education. The test instrument was administered to seven hundred and eightyfive senior elementary education majors in thirty colleges and universities in Texas. The t-test and one way Analysis of Variance was utilized to analyze the data after tabulation by computer. Participants achieved scores ranging from 11 to 68 on the phillips health knowledge test. A majority of the participants indicated they (1) did not feel qualified to teach health at the elementary level; (2) had completed at least one college health course; (3) found college health courses beneficial; (4) felt health courses should be a requirement for the elementary education majors. It was concluded that (1) the study of health education is not a priority curricular requirement for prospective elementary teachers in Texas; (2) Health courses are received to be beneficial by prospective elementary teachers and have application for them either as individuals or for the elementary classroom; (3) Health education

should be a requirement in positive professional preparation of elementary teachers; (4) The health knowledge of elementary teachers in Texas is lower then the established norms; (5) Elementary teacher in Texas college and universities feels less confident to teach certain health education content areas than others.

Loop and Tiptoe\(^3\) conducted a study on a health survey of Hunter College Freshman. The main objective of this study was to obtain description picture of the health status, attitudes and practices of the Freshmen and Hunter College upon registration for the required course in personal hygiene. The data was collected from one thousand and thirtythree freshmen registered for the hygiene course over a period of four consecutive semesters. The inventory method was employed, questionnaires were distributed to the student body and answered individually and anonymously. There are four main divisions of this study: personal appearance and body grooming, daily health habits, mental and emotional health and physical status of the subjects. The results of the investigation of personal and body grooming indicated the major field of weakness than others.

\(^3\)Ann S. Loop and Anne B. Tiptoe, "A Health Survey of Hunter College Freshmen" Research Quarterly, 23 (March 1952): 54.
Nakamura and Loscannnt\(^4\) conducted a survey to assess the health behaviours of California school health association members to determine whether or not these individuals utilized their professional knowledge to maintain themselves at a high school level of health and consequently act as positive role model in the school health programmes. The survey was designed to investigate behaviour patterns in categories relating to nutrition, drugs, exercise, risk and medical profiles. A questionnaire was designed to determine what percent of the respondents practiced positive health behaviours. The survey result provide strong evidence that the majority of those surveyed practiced what they have learned and taught. Sound nutritional habits were exhibited. Reasonable drug and risk taking behaviour was practiced. Excellent medical profiles were also maintained. Exercise was a basic component to most of the respondent lines, however increase participation and regular exercise programme could be improved. The results showed good overall health practices, making California school health association members potentially good role models.

Elizabeth attempted to measure the health knowledge of senior students in teaching preparation who are to teach physical education, home economics or social studies. The specific purpose were to determine the extent to which students included in this study were qualified to teach health based upon their knowledge of health as measured by valid and suitable health knowledge instrument. Gunter's College health knowledge test, Form A, was administered to 254 senior secondary education majors. The students were grouped into eight categories according to major area of study. The test included 8 variables (1) gender, courtship and marriage (2) world and community health (3) mental health (4) health hazards (5) personal health (6) drugs, alcohol and tobacco (7) understanding disease (8) health agencies. Three computer programs were used to analyze the data namely item analysis, discriptive analysis and cattle coefficient of profile similiarity. Based on finding and interpretation it were established that (1) based upon raw score means and the composite test scores, none of the groups were seeming well qualified to teach health, (2) based on health knowledge scores of students majority in physical education, it is evident that they are not well qualified to assume the responsibility for health instruction. It is recommended that health be taught as a separate discipline for a minimum of one year. Curriculum revision should

5 Bownaan Yionne Elizabeth, "Health Knowledge of Senior College Students in Program of Teacher Educations in Albamau, Dissertation Abstracts International, 39 (July 1978) 140-A.
be made to improve the health knowledge of teachers of physical education and biology.

Smith and Wesley⁶ hypothesized in their study that even though the principal is very busy in administrative role, his/her personal health values and health behaviours could provide insight into health instructional effective in the school. A major portion of the research involved describing the health values and health behaviours of seventh and eighth grade principals. This was accomplished utilizing G.W.B. questionnaire to gather descriptive data in 7 areas of well being and to identify the health instruction effectiveness of participating principal’s school through the use of a rating instrument entitles, the health education effectiveness questionnaire. The result of the study indicated that principals aged 44 years male and 11 years of experience as a principal have most notable healthful component of well being average included smoking, alcohol and drug usage, adequate coping behaviour and a low level of physical complaints. Low effectiveness scores were found in curriculum planning and evaluation, GWBQ areas of health behaviours. High effectiveness scores were reported in the methods and instructional aids and

⁶ Smith and Dennis Wesley, "Health Education the Principal: An Analysis of Principal’s Health Values, Health Behaviours and School Health Instruction Components in Selected Schools", Dissertation Abstracts International, 46 (December 1985) 1525-A.
general areas. Although the case study was designed as an initial look, at hypothesised association, the results indicated that the principal's well being have an initial relationship to areas of health instructional effectiveness.

Drury and Blanches\(^7\) purpose of the study was to give desired data regarding health instruction in the secondary schools of California. A questionnaire which would attempt to give objective data on all aspects of health instruction were sent to all junior and senior high school principals. The questionnaire was divided into six major areas. (1) General information (2) school and community resources (3) organization and administration of health programme (4) health instruction program (5) evaluation of health instruction (6) personal teaching health education. From the results it was concluded that health does not occupy a prominent position in the curriculum of California secondary schools. Health instruction is poorly organized as a subject area in California secondary school. Supervision of health instruction is frequently performed by persons inadequately trained in this field. The schools are not fully availing themselves of opportunities for assistance from public and private health agencies to enhance health instructional programmes.

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Miller\textsuperscript{8} had conducted a study to develop a comprehensive health education program in higher education for the preparation of public school health educators. After all the research had been completed, the data gathered were analyzed and the development of the criteria and the comprehensive program of health education was developed. The proposed comprehensive health education program presented in this study developed the concept that the thrust of health education should be directed towards the development of positive mental and emotional health concept within the individual, within the program, each course relating to the concept of positive health.

William\textsuperscript{9} health analogies test was administered to 200 male and 290 females enrolled in a basic health education course to evaluate the health education knowledge of freshmen students. The results served to plan health education course content at VSC. Health education areas measured were disease, family living, personal hygiene, community health, mental health, tobacco and drugs and nutrition. ANOVA and Duncan multiple range were used to calculate significant differences between males and females and the


seven health education categories. Nutrition scored highest in knowledge for both male and female. Health education knowledge was weakest in personal hygiene, family living and disease. ANOVA revealed no significant differences in health education knowledge in the seven categories between the male and female freshmen students.

Schaller\textsuperscript{10} conducted a study for measuring the health needs and interests of secondary school students. Four adaptations to the inventory were administered to students, parents, health teachers and physicians. Results indicate a common case of health interests among high school students. Health needs as expressed by high school boys and girls were markedly different. The parents, health educators and medical doctors were in agreement on the basic health needs of the high school students. The adult and student parents of this sample were in some disagreement on what the high school child needs to learn about health.

The study of Hamann and Ann\textsuperscript{11} was concerned with the effects of a


\textsuperscript{11} Hamann and Barbara Ann, "The Effects of a Course in Basic Concepts in Physical Education on Selected Health Attitudes and Behaviours of College Freshmen", Dissertations Abstract International, 44 (March 84): 91A.
lecture laboratory course including basic health concepts on health attitudes and behaviour of college freshman. The experimental group consisted of 71 freshman students enrolled in the basic concepts in physical education course and control group course. A four months followup study was made on 53 students in the experimental group. ‘t-test’ were used to test 8 of the 11 null hypotheses, six of these eight null hypotheses rejected indicating that there was a statistically significant changes in health attitudes and behaviours after the course of the remaining three hypotheses, two were tested by use of practical significance and were also rejected. There was a significant correlation between seventeen attitudes and their corresponing behaviours, one conclusion reached was that a lecture laboratory course such as basic concepts in physical education can be an effective tool for improving health attitudes and behaviour of college students. One implication for the basic concepts lectrue laboratory approach deals with reducing the emphasis on same concepts for which a large number of students already had positive attitudes and behaviours and adding more concepts in such areas as nutrition, mental health and disease prevention.

Abiakam and Obiora\textsuperscript{12} measured general health knowledge using

\textsuperscript{12} Abiakam and Fobem Obiora, "Cross Cultural Comparison of Health Knowledge of Selected American and Nigerian University Students" Dissertation Abstracts International, 43 (June 1983): 3816-A.
Kilander-Leach health knowledge test and the specific areas of personal health, nutrition, mental health, family life, first aid and safety, community health, chronic and communicable disease, drug education and consumer health were compared. Subjects were 110 American student from East Texas state University and 110 Nigerian students from university of Nigeria. Analysis of variance was utilized to determine the significant of differences between the two groups with respect to total and specific health knowledge areas. Results showed that American students had significantly higher total health knowledge, though both groups were lower than the national average on the Kilander-Leach health knowledge test. The American students also had a significantly higher health knowledge in the specific areas of first aid and safety, mental health and drug education. The Nigerian students had a significantly higher health knowledge in the areas of community health, consumer health and family life. There was no significant relationships between socio economic status and health knowledge level among the groups.

Dent\textsuperscript{13} in an attempt to analyse health and safety knowledge and selected health and safety practices of the boys and girls of Mobridge senior

high school, conducted a study with 200 item questionnaire as a basis for instruction. The evidence showed a tendency in both sexes for questionable health behaviour practices to increase with age. Comparitively, the girls were much more concerned with conforming to current fads and fashions, were better informed on nutrition, observed better grooming habits and tended to data and go steady. Some other apparent differences in the responses of boys and girls were revealed in male and female characteristics and attitudes. The boys and girls of all the high school grade participated in a number of practices that were considered as unwise by health authorities.

Dear Born\textsuperscript{14} conducted a study in which a standard health knowledge test was given as a pretest to 12,000 freshman and sophomore students in 15 scattered universities, colleges and junior colleges. A 25 percent sample was analysed to determine the health knowledge of students before instruction in college hygiene classes. The results were significant, showing health ignorance in both students, recognized and unrecognized to be widespread especially among junior college students with considerable differences between institution mean test section scores as well as item scores showed great variation demonstrating the need for pre-testing as an aid to second planning of health

instruction. As measured there was a constant significant differences in health knowledge achievement (9.9 points) between the junior college and the universities.

Chiedu\textsuperscript{15} in a comparative study of the health behaviour of international, freshmen students and American students enrolled in test Virginia University develop a 47 item questionnaire and its validity and reliability were established. The statistical technique employed were analysis variance for F statistics, Chi Square and Duncan’s multiple range.

The Duncan’s multiple range was used for all quantitative items in each section to determine if any group was significantly different from other. The results indicated significance differences between all these groups in the following sections, health behaviour, adjustment problems and communication problems. There was no significant difference in three groups, on how they utilized the medical health services. Based on the finding it was concluded that International freshmen students enrolled at West Virginia University have more than health problem than their American counterparts and American

freshman students had more health education classes between elementary school and senior high school than the international freshmen students.

Cormack and Renee's\textsuperscript{16} purpose of the study was to determine if participants and non-participants in a school based pit and fissure program differed with respect to selected dental health knowledge beliefs and practices. 160 seventh and eighth graders completed dental health assessment profiles after the pit and fissures sealant program. Thirtyone participants in the sealant program, while an overwhelmingly one hundred and twentynine did not participate. There were no statistically significant differences between the two groups on dental health knowledge. However, beliefs of the children who participated were significantly greater than the others. It is concluded and recommended that health educators should integrate dental health education into all applicable aspects of health.

Newsom\textsuperscript{17} conducted a study to measure health knowledge and health


\textsuperscript{17} Roy L. Newsom, "A Study of Relationship of Health Knowledge and Health Practices of Tenth, Eleventh and Twelfth Grade Students of Cooper High School", Completed Research in Health, Physical Education and Recreation, 10 (1968): 73.
practices of the students in grades 10, 11, and 12. The amount of health knowledge possessed by students increased on the grade level increased, although the mean score for all students (180) ranked below the 50th percentile of national norms. The mean score for health practices were below the 30th percentile for each class. For all grades the scores and the relationship between knowledge and practices were highest for the area of mental health and poorest for the area of nutrition.

Gupta and Singh\textsuperscript{18} conducted a study on health awareness among adolescents to assess the degree of awareness about different aspects of healthful living among students during early adolescent age of development. Study was conducted on the pupils of classes VIII and XI studying in the experimental school of model Institute of Education and Research. A questionnaire was developed by the investigators on health education comprising of one hundred and ten multiple choice items. The questionnaire contained items pertaining to eight different areas of health, medical checkup, eating practices balanced diet, sports activities, environmental hygiene, general health and physical well being. The results of the study clearly reveal significant differences among the adolescent categorized on the basis of family

size, family income and age respectively.

Marshall and Allison\textsuperscript{19} made a comprehensive survey of the signs of health and health habits among college freshmen. Questionnaire was given to 218 college freshmen, all men of average age eighteen in October 1939. The general conclusion was not unfavourable. There was 35 questions about common signs of health and health habits. It conclude that college freshman, as represented by this group rank high in their possession of certain common signs of health and health habits. The exceptional cases may be indicative of important health weaknesses that should receive attention. Some of the individuals chose responses were in the low columns have been the victims of contingent defects of accidents and of unfortunate circumstances. A few of them were presented under the best of conditions, to respond to such questions "very little" or Never Columns

The propose of the study by Anwsuni and Gorruso\textsuperscript{20} was to study the effectiveness of five part geiatric health related fitness television series


\textsuperscript{20} Anwsuni and Catherine Gorruso, "Effects of Viewing Health Related Fitness Program on Knowledge, Attitude and Behaviour of the Elderly" \textit{Dissertation Abstracts International}, 44 (January 1984): 2048-A.
relative to the acquisition and retention of activities behaviour and health related fitness knowledge. The subjects were randomly selected from TV audience voluntaries to meet the derivation of a disproportional stratified sample. Subjects completed present questionnaire viewed the TV program series, and than completed the post test/follow up questionnaire. It was hypothesized that subjects differ in responses for the total sample by sex and by living environment to questions of activity behaviour on the pretest and follow up comparisons and to questions of knowledge and attitude toward TV on pretest, post test and follow up applications. Activity behaviour data were analyzed using the chi-square test for independence knowledge and attitude comparison were analyzed using a t-test for correlated means.

Conclusions derived were (1) An increase occurs in health related fitness knowledge immediately following viewing (2) Attitude toward TV immediately following viewing is not altered, (3) Health related fitness knowledge and TV attitude unaltered by living group at an interval of four weeks after viewing.

Whileock and Bert\textsuperscript{21} made a study to assess the effectiveness of a health concepts approach to teaching health education to 1st year male and

female college students. Lussier's multi dimensional instrument was administered to identify health education needs of college students. Two groups, one control group composed of students chosen at random from various physical education activity classes and one experimental group which was composed of students enrolled in the modern health concepts class. Analysis of variance and Pearson co-efficient correlation were primary sources of data analysis. There was a significant increase in the mean scores of the control group on both attitude and behaviour portions of the instrument. There was no significant change in mean scores in the experimental groups on either the attitude or behaviour portions of the instrument. There were significant relationships among health knowledge, health attitudes and health behaviours in both groups.

Walker and Alexander\textsuperscript{22} in their study surveyed 208 males and females for the possibility of a relationship between individuals body image and an individuals health knowledge. It also surveyed for a possible relationship of an individual's body image with one's health behaviour, since there were no valid and reliable health knowledge and health behaviour inventories available, the investigator developed the health knowledge and

health behaviour inventories. The Secord and Jourard Body Cathexis scale was used to measure body image. The sample population was drawn from junior and senior high school students. The responses were analyzed to determine if there was a relationship between body image, health knowledge and between body image and health behaviour. The findings showed that subject with positive body image scores were more likely to be engaging in behaviour that was favourable to health. There did not seen to be a relationship between body image and the amount of health knowledge of subjects. When data were analyzed for the differences between the sexes for body image, health knowledge and health behaviour, the finding showed that females had more health knowledge than males and females tended to have a less positive body image scores than males. When looking at the finding for a relationship among the ages for body image, health knowledge and health behaviour there appeared to be a trend only for health knowledge. Health knowledge tended to increase as age increase. The findings resulted in no relationship for age and health behaviour or age and body image.

Botty and Armondo\textsuperscript{23} conducted a study to measure the health knowledge of elementary school students in Heroila, Matamoros Temdulipas

\textsuperscript{23} Sessin Botty and Miguel Armondo, "Elementary School Health Project of Heroica, Matamoros, Tamulipas, Mexico Health Knowledge and Health Curriculum Needs" \textit{Dissertation Abstracts International}, 47 (July 1986): 91-A.
and Mexico. The result of health knowledge evaluation in conjunction with health status data from the Mexican population were used to develop a list of suggested health curriculum topics. 20 elementary schools in the Matamoros school system were secondary selected and a health knowledge test was administered on 460 students of 4th and 6th grade. The 93 item test determined health knowledge levels with regard to the main concepts of physical health and safety, mental health life cycles and 10 subtopics of the main concepts. Percentile scores and ranks, mean scores, t-test and item analysis of individual test questions were calculated. The t-test were used to determine mean health knowledge differences between fourth grade students and sixth grade students. The finding of this study were (1) elementary students in 4th and 6th grade at Meroica, Matamoros, Tamulipas and Mexico demonstrated a very low level of health knowledge (2) significant difference in health knowledge by grade level did exist with sixth grade students, demonstrating a significantly higher mean health knowledge score than that of 4th grade students (3) there was no significant differences in the mean health knowledge scores of males and females and scores of students attending urban schools and students attending rural schools.
Southworth, Latimer and Turner\textsuperscript{24} conducted a study with a purpose to survey the health practices to discover the factors which are directly related to the present physical status of youth and to use such information for the building of a more effective health programmes for high schools. On the basis of size, type of community (rural, industrial, residential) geographic distribution and economic status. 27 schools were selected and the number of pupils who took test in any one high school was limited to 600. In so far this test is an accurate reflection of health practices which remains constant throughout the high school period. No significant difference were reflected in the quality of healthy behaviour of high school pupils in different types of communities (industrial, rural, residential) girls however, had better ratings than boys.

Thompson\textsuperscript{25} obtained a data on health knowledge and practices of freshmen students t selected predominantly black state college and universities. The purpose of this study was to investigate the health knowledge level and practices of freshmen students at predominantly Black


colleges and universities based on the findings of the study the following major conclusions were drawn: (1) that freshman students in this study based on their responses demonstrated critically limited health knowledge and practices (2) that those knowledge held by respondents regarding health had limited influence on their health practices (3) that the strengths indicated although minimal, were in the following categories (a) personal health (b) family health (c) mental health (d) dental health and (e) that the most critical weakness was found in the category of community health.

Lawrence\textsuperscript{26} studies about the appraisal of emotional health at the secondary school level. An appraisal instrument designed to be used by classroom teachers was developed to evaluate the emotional health of junior high school pupils. The instrument was administered to 3,114 pupils in grade 7,8 and 9 in five junior school of high socio-economic levels in two school districts in Los Angeles county California. Analysis of the data indicated that the instrument was reliable and valid. the instrument might be used (a) to identify pupils who need help with self acceptance, getting along with others and facing reality and (b) to aid teachers in guiding pupils in the solution of their behaviour problem.

Quentin\textsuperscript{27} obtained data on health beliefs and health practices of children and youth. The major purposes of this study were to determine the health belief and health practices of children and youth and to determine the relationship between health belief and health practices. One hundred students from grade four, eight, and eleven were randomly selected as subjects for this study. Questionnaires were developed on both health belief and health practices using a jury of experts to establish validity. Chi-Square contingency tables were constructed for each item on the questionnaire to determine whether or not there were significant differences between grade levels, chi-square contingency tables were also constructed for each pair of items that represented a corresponding belief and practice. It was concluded from the study that students in all three grades were aware of the health practices and there was no significant relationship between the health beliefs and the health practices of children and youth.

Russell\textsuperscript{28} compared four health practices of three international student groups i.e., from Iran, Malaysia and Venezuela and found that they were

\textsuperscript{27} Frisk Douglas Quentin, "Health Beliefs and Health Practices of Children and Youth" Dissertation Abstracts International, 43 (October 1982): 52-A.

different from an American control group attending the same midwestern university, Southern Illinois University at Carbondale. Sleeping personal cleanliness, teach care and meat eating were the four practices and were examined for similarities and difference between these foreign groups. The health behaviour recording the highest difference between groups was personal cleanliness, teeth care and related practices evidenced the second largest number of significant values, with meat eating and sleeping a distant third and fourth. Malaysians displayed the most frequent differences from the American control group in all health behaviour. Iranians differed little with Americans in sleeping practices while Veneradans did likewise in meat eating. With an overall view there were no significant differences exist between foreigners and American groups.

Kathryu²⁹ conducted a study on undergraduate students at the University of Iowa. The purpose of the study was to determine the physical health practices of college students. On the basis of the study two groups were formed as those students who had good health practices and those who had poor health practices. Sixteen students in each group were interviewed. In general as compared to the poor health practice group, the students with good

health practices were younger, had higher calence and had more positive attitude towards exercises. There were no significant differences between the two groups for some of the characteristics i.e., sex, socio-economic status, amount of health information, attitudes towards disease prevention, developing and maintaining healthy nutrition and health education.

Cable\textsuperscript{30} conducted a study on a pilot project to assess health needs, selected health behaviour and patterns of health resource utilization as perceived by residents of three neighbourhoods in an urban community. This explanatory health needs and health resources utilization study assessed four hundred and fiftytwo families in three urban community through household interview and random selection. The communities although adjacent to each other, had widely different population in terms of income level, education, race and number of families living below the poverty level. The major hypotheses were that there was a positive association between selected democratic characteristics and the identifications of a regular source of health care, upon whether or not a physician was seen in the past year, upon the bind of health resources utilized, and upon those who reported life style changes in the

interest of good health. In general the findings were similar to national and local studies with same exceptions.

Dowell\textsuperscript{31} conducted a study on selected health education implications. The study was an identification of certain health education implications for secondary school. Selected health problems of local communities were surveyed by means of a checklist administered to one hundred and sixtyfour professional workers concerned with health. Those areas of health neglected by the public school were determined by means of a checklist completed by one hundred and eighty school teachers and administrators. Further health education implications were determined by surveying the needs and interest of three hundred and sixty secondary school students. It was found that (a) health curriculum should be vitally concerned with the teaching of the effects of alcohol, drugs and tobacco, mental health and sex education (b) secondary school needs to add mental health education and sex education to the school curriculum, (c) more effective means of health instruction need to be devised in certain health areas, (d) certain health areas need to be emphasized at different stages in the secondary schools and (e) interests and worries differ greatly between the sex implying possible benefits in segregation of the sexes.

for certain phases of health instruction.

Cauffman\textsuperscript{32} conducted a study to investigate the health behaviour of seventh and eighth grade students as measured by the responses to the Cokbank Health behaviour inventory and attendance records. Significant differences favouring girls were found in the mean total test scores and in the knowledge and practice subpart scores on the inventory. Highest mean scores were established in the health attitude subpart of Cokbank Health Behaviour Inventory, only nominal or non-significant differences were evidenced between inventory items and scores of attendance groups. Findings for curriculum development in health education were discussed.

The purpose of the study of the Burgess and James\textsuperscript{33} was to analyze the heath knowledge of 8th grade students in Arkansas for the purpose of developing a prospective curriculum guide. A total of 705 eighth grade students were administered the AAHPER co-operative health test from the 22 randomly selected school, the conclusions drawn are (1) Instructors teaching


\textsuperscript{33} Burgess and David James, "An Analysis of Health Knowledge of 8th Grade Students in Arkansas for the Purpose of Developing a Prospective Curriculum Guide" \textit{DAIGI} (October 1980): 144-A.
health education in Arkansas were usually teachers not prepared to teach
health education, (2) Among schools in Arkansas participating in the study, the
instruction of health education varied greatly in quality, (3) there is little
variance between the different sizes of schools and the knowledge possessed
by students in the several content areas on the AAHPER co-operative health
test. Based on the results the content areas presented in curriculum guide are,
consumer health, community health, disease and disorders personal health,
growth and development, nutrition, drug use and abuse and safety and first
aid.